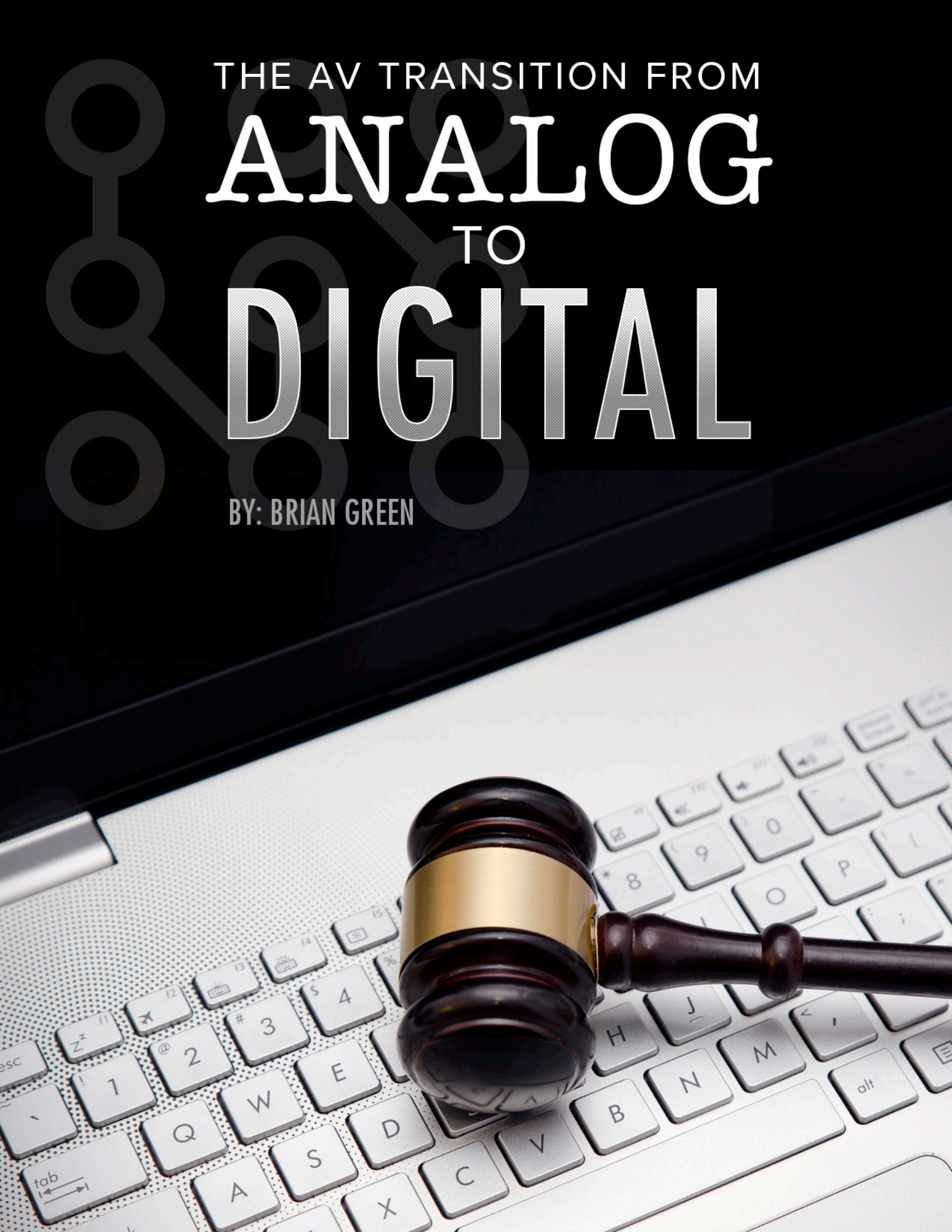
THE AV TRANSITION FROM ANALOG TO DIGITAL

BY: BRIAN GREEN



Analog sunset is a term used when referencing how audio video elements within a room no longer work with newer digital components. Courtroom AV, being a specialized subset of general AV solutions, has been somewhat sheltered from change. While analog capabilities haven't quite disappeared, the continuously expanding feature set of digital AV solutions—as well as the emergence of distributed IT networks—has changed the pace of technology forever, and analog circuits are simply too outmoded to keep up.

The speed at which technology evolves outside the courtroom has put many courts in jeopardy of being too old-fashioned and unable to exist in the same world they adjudicate. The AV needs of the courtroom today require integration of all the courtroom AV components, as well as any external devices, whether it be a laptop or iPad. Litigators today convey information to juries via PowerPoint and present high-resolution images to identify defects in manufactured materials. The amount of digital evidence being produced by security systems, body cams, and mobile phones, along with the need for the courtroom to display this media is increasing every day.

Many courts are open to technology, and have regular equipment refreshes. Now courts are finding themselves at a deadlock technologically. Equipment upgrades of the past were incremental and—at best—work-arounds which tried to maximize the effectiveness of aging analog equipment. Analog interfaces, with their anachronistic monitors and components, require additional equipment that introduces new potential points of failure. When the old meets the new, the experience is diluted and satisfaction diminishes.

Can courts afford to be slow to adopt technology and continue to provide justice to her constituents?

The downward spiral of "one-off" technology updates

One of the first nationwide advances in courtroom technology began in the 1950's with the integration of public address systems. The intent was clear—the people in the gallery needed to be able to hear what was going on in the 'well' area of the courtroom. Oftentimes, the clerk calling out case names—along with their participants—would wear their voice out before the end of the day's docket. Public address systems helped with these issues, but were often limited in their ability to connect more microphones, speakers, or to integrate with other systems.

Court personnel quickly realized that while public address systems had advantages, they still had a need to conduct private bench conferences. With a public address system, these private matters were now broadcast to the entire courtroom. The solution was to have white noise emitted out of speakers to the jury, gallery, witness and law tables, while the audio coming out over the judge is only muted. The white noise keeps privileged information from being broadcast to all the parties until it is ascertained as relevant to the case. The earliest public address systems had no capacity for this type of configuration, so the new components had to be selected and added on.

In more recent years, the need for telephonic and video conferencing solutions became a focus for courtroom technology upgrades. Simply adding devices to systems was always the cheapest tactic, but rarely was it the correct approach. Video or telephonic conferencing systems would be brought in and never connected to the public address system. This created a need for a second set of microphones to be placed everywhere the conferencing system would be used.

This kind of situation has played out again and again over the years in courts, creating inadequate and disparate systems. Courts commonly have separate providers for video conferencing, public address systems, evidence presentation, digital recording, as well as other technologies. Over time, the original integrators went away for any number of reasons, and new ones were brought in. There are parallel systems in many courts, each with their own unique user interfaces and operating procedures.

Video conferencing is a must in today's modern courtroom, but careful attention must be paid to the overall integration of this and similar technology.

The end result is what is considered in the AV industry as a 'kludge'—an ill-assorted collection of parts assembled to fulfill a purpose. Rather than having a simple, easy- to-use system that anyone can be trained on, the court ends up with legacy equipment that no one knows how to operate.

The Needs of a Modern Court

While a kludge can work in an analog-type setting, this type of hay-wiring of equipment and cabling will not work within the industry's transition to digital. Today, the needs of AV users in the courtroom are much more sophisticated than VHS tapes and a TV cart. The additive approach no longer works and is a poor use of funds when applied.

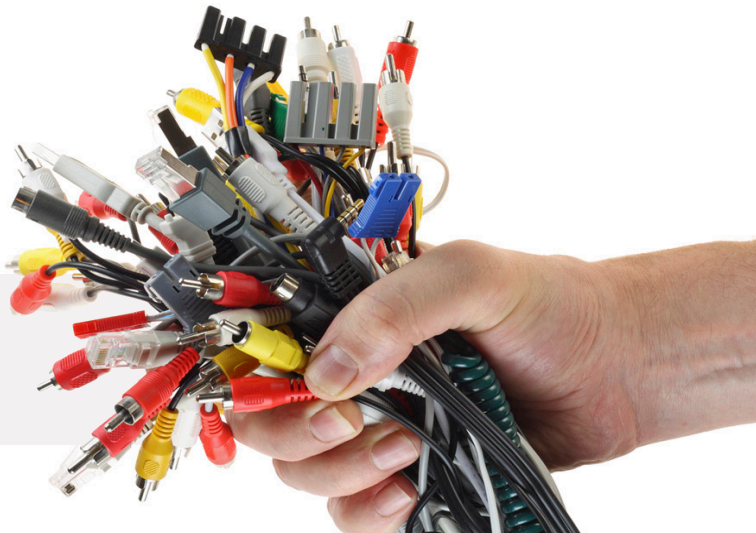
Modern courtroom users need Wi-Fi access points and connectivity into a digital AV system for physical and digital evidence, security system videos, mobile camera recordings, deposition playback, PowerPoint presentations, and more. Courts need to have technology that allows for telephone and video conferencing capabilities to be seen and heard by all participants. All interactions and presentations need to be recorded to augment the written record.

Digital systems can be networked to collect information as it happens without need for user intervention, and this data allows leaders to make informed decisions quickly. Administrators need analytical data on how courtroom systems are used and where the technology bottlenecks are. Analog systems cannot provide these types of metrics.

In many cases, digital connectivity provides huge potential for audio and video when it is utilizing a computer network. Ethernet networks are ubiquitous and their ability to transmit case management and web data also makes them able to integrate AV into the courthouse. With digital information and signals now being routed throughout the courthouse, artificial intelligence can drive innovation into a court's decision making process.

The general population embraces and depends on the accessibly and convenience of modern technology. At a bare minimum, today's users expect to be able to digitally connect to systems. When a court resists the utilization of technology, it can be perceived by the modern public as denial of access, and serves to weaken the image of the court and the laws it arbitrates.

How can courts manage these technology challenges while continuing to uphold the procedural and evidentiary guidelines laid out by their legislatures? These procedural concerns are real and with technology evolving every day, how is it possible for courts to overcome these obstacles?



The end result is what is considered in the AV industry as a 'kludge', an ill-assorted collection of parts assembled to fulfill a purpose. In some cases, a kludge would be better than what actually exists.

Getting a Level Set by Planning Ahead...Way Ahead

The traditional "additive approach" to courtroom AV is always reactive. It never looks at the whole courtroom, only the latest 'box' that could solve all the courts problems. Myopic and opportunistic, this method never allows a court continued growth. Many times, it can leave customers with buyer's remorse, the sense of regret that stems from feeling like the wrong choice was made. Courts sometimes use grants to make purchases, and the timelines laid out before the expiration of these funds can lead to hasty decisions. Analog technology was much more forgiving, but when trying to shoehorn digital technology into an outmoded and obsolete analog audio system, these hard- fought funds can seem wasted once the result is analyzed.

With analog technology, courts were, in a sense, technologically landlocked. There was very little ability to grow in the courtroom presentation space. With AV and IT now being established as central to a court's operations management, the focus needs to be on developing a vision incorporating technology and addressing policy issues before they arise. Business workflows can be optimized by bringing technology projects online that focus on standardization and technological transformation. Smaller departmental improvements should be held off in favor of projects that ensure the accountability of courthouse-wide systems and networks.

Jury trials often deal with very complex issues. Computer generated presentations can be produced to help simplify information to the jury. These presentations often keep the juror's attention, improve their understanding of subject matter, and possibly decrease the trial time. Existing presentation systems may need to be replaced with new technology. Rules around the use of this new technology need to be revisited regularly as digital evidence presentation techniques develop.

Digital technologies require a solid infrastructure to be successful, and the best way to achieve this is through a partnership with an AV provider for delivery, support, and scalability.

Digital technologies require a solid infrastructure to be successful. Infrastructure requires a good governance strategy which covers all stakeholders and users. Governance ensures that day-to-day business operations are supported and are within all legal and compliance guidelines. With its long lead time, governance must come first, with the infrastructure applications to follow. From there, courts can create technology committees to explore and procure the endpoint technologies that will best support their operations.

It is not an issue of the technology being able to keep up with courts, but of courts being able to keep up with technology. The best way to achieve this is through a partnership with an AV provider for delivery, support, and scalability. Overhauls of such a scope require court leaders to have plans in place to support the continuous change of judicial officers, court staff, and representatives from other agencies. From the outset, it needs to be understood that customer service not only encompasses the public, but also the staff and users that the court serves.

The transition from analog to digital is not a fad, it is the future. Court IT cannot transition it all by themselves. IT departments need to work with a technology partner whose focus is on technical expertise and customer support. The court's AV partner should be able to make its stakeholders aware of technology trends and the potential consequences of it use.

By taking a long approach to planning for infrastructure projects and the rules around its governance in courtrooms and court houses, IT staff can guarantee a successful path to the future. Modern courts can benefit by choosing the proper infrastructure technology which puts them in a much better place to manage the constant change of endpoint technology and that technology's impact on the law.

About the Author

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Brian Green has vast experience in AV design, government procurement processes, strategic planning, and business work flow design. He is recognized as a Certified Technology Specialist with AVIXA, the Audiovisual and Integrated Experience Association in AV design and integration. He has also held additional roles including VP Manufacturing, Sales Director, Director of Engineering R&D, Product Manager, Lead Design Team Engineer, Shipping Clerk, and Installer.

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