

The Case against Courtroom E-Lecterns

Laptops v. DocCam Systems

By Lynn Packer, February 2003

Lynn Packer is a Utah trial consultant (www.courtconsult.com). He's assisted on cases that made unprecedented use of digital graphics in Utah courtrooms, such as *Jensen v. KTVX* and *Lantec v. Novell*. He also consulted on the high-profile *State v. Weitzel* murder case. Packer was previously a reporter for KSL Television and a broadcast news instructor at Brigham Young University and, for two semesters, at the University of Dortmund in Germany. He consulted for several of Germany's largest television stations, among them WDR, DSF and SAT1. This article is based on one Packer wrote for *Law Technology News* and for the German legal website *jurawelt.com*, and on workshops he conducted for the Utah State Bar and Utah Attorney General's Office.

Early in 2001 Salt Lake attorney Stan Preston set himself a rather lofty goal for an upcoming technology-related jury trial: win via a directed verdict. It was a no-brainer to use digital presentation technology for a case about technology. Preston deployed a laptop computer, PowerPoint and an LCD projector. He had turned down the chance to try the case in a courtroom outfitted with a so-called e-lectern, a podium packed with electronic presentation equipment. He didn't need its document camera, VCR, annotation tablet and relatively small monitor.



Stan Preston used a laptop, LCD projector and 6X8 screen to tell Novell's story in federal court.

Preston, who defended network software maker Novell against a suit brought by the Brazilian software company Lantec added another new wrinkle to his opening statement. He deployed television news presentation techniques, methods that are part of *courtconsult.com's* visual litigation strategy.

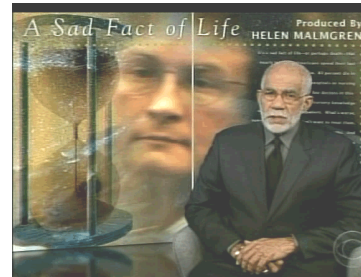
Preston delivered a so-called wall-to-wall, high-visual-content opening. Standing next to a 6'X8' screen, facing the jury, he used low technology—his hand—to point out screen highlights, rather than a laser pointer or annotation tablet. He backed up every statement in his one hour fifteen minute presentation with photos, bullet points, timelines, charts, graphs and analogies. In a tutorial section Preston graphically explained how computer servers and their related software work. Using two analogies—one with an elephant graphic—he punched holes in the plaintiff's theory that his client, Novell, was a monopoly.

It worked.

Utah federal Judge Ted Stewart directed a verdict against plaintiff Lantec before Novell even had to present its case. Later the 10th Circuit upheld Judge Stewart's ruling.

* * * * *

Flash forward almost two years to November, 2002. Psychiatrist Robert Weitzel was getting a second bite at the apple. A Davis County jury had earlier convicted him two counts of second-degree manslaughter and three counts of negligent homicide in the deaths of five of his elderly patients. The case, because of its impact on elderly care nationwide, was featured on CBS's 60-Minutes.



But his conviction was overturned when a judge ruled that prosecutors had withheld exculpatory evidence from defense counsel. For the retrial Dr. Weitzel had new counsel—Wally Bugden and Tara Isaacson—and the help of courtconsult.com. The defendant, partly because of computer experience he gained while confined at Utah State Prison, became convinced that switching from a paper to a paperless document presentation would improve his chances of winning. But because he had exhausted his savings during the first trial, the new technology for the second had to be simple and inexpensive.



Weitzel defense counsel table: two laptops connected to the LCD projector through a switchbox.

His defense team scrapped the first trial's document-camera approach in favor of digitized documents stored on laptop computers. The documents were scanned into .PDF files and presented in PowerPoint. (There wasn't enough money for slick, courtroom-specific software like Sanction, Visionary, et al.) The prosecution, meanwhile, stuck with the document camera, turning the technology side of the trial into *Laptop v. Doc Cam*.

At trial digital document presentation slashed the time it took to cross-examine and examine witnesses. It also enhanced the clarity of the

defense's case.

The jury only deliberated 90 minutes to acquit Dr. Weitzel on all counts. (Part of that time was spent eating a late lunch.) One juror, afterwards, e-mailed defense counsel Bugden: "Your skillful use of graphics made all the difference in presenting Dr. Weitzel's side of the case." The juror commended the defense for "a masterful presentation." The juror said the defense's "level of preparation certainly left the other guys in the dust."

Not only did the technology gain an acquittal. It also shaved several days off the new trial compared with the old. The first trial went 25 days, the second only 11, while covering much of the same ground. Dr. Weitzel attributes 7 of the 14 days saved



to technology. “The digitization of the voluminous records helped us save time before trial, helped us present our case in a much more focused fashion during trial, and particularly made it easier to marshal our best forces at the closing,” he said.

Big Bang, Low Bucks

The Novell and Weitzel courtroom presentations prove that attorneys can get a big bang for low bucks—that is a lot of presentation power without having to use hundred thousand dollar electronic courtrooms. What’s more, digital presentation technology continues to go up in lumen and gigabyte power while it goes down in weight, bulk, cost and complexity.

Nevertheless, the federal courts continue to embrace an electric courtroom concept centered on e-lecterns, a concept derived from the Courtroom of the Future (now called Courtroom 21) located at the College of William & Mary near the headquarters of the co-sponsor, the National Center for State Courts. In the ten years since the project was begun Courtroom 21 has become the most technologically advanced courtroom in the world and the model for modern courtrooms around the world. The Administrative Office of the U.S. Courts (AO) embraced the e-lectern model and helped fund 100 installations in fiscal 2001 alone.

The bowels of electronic lecterns—a.k.a. e-lecterns, power podiums, interactive lecterns, smart lecterns, audiovisual podiums and presentation stations—are made up of a combination of old and somewhat new technologies. Old: video and audio cassette players and video printers. Somewhat new: document cameras and annotation devices. Newer technology, such as computers, is usually not part of the system. But inputs for them are provided.

E-lecterns are adaptable to a wide range of presenter skill levels as well being open to paper and digital inputs. But that same combination of technologies drives up their cost, complexity and difficulty of use.

The primary input device, the document camera, is only a baby-step more advanced than the overhead projector that has served attorneys in courtrooms since the forties. The doc cams are provided for attorneys who won’t/can’t digitize their evidence and present it off laptops. It’s a bone tossed to the computer illiterate, many of whom likely only made limited use of old-fashioned presentation equipment like overhead projectors, flip charts, poster boards and VCRs.

It’s an expensive and unwieldy bone. And one that promotes paper document presentation in an era when the courts should be thinking about requiring paperless presentation for most trials.

The Swiss Army Knife podium approach also requires a lot of wiring. Even more so when the court opts for LCD flat panel monitors in the jury box instead of simpler projection screen displays. Because of the requisite wiring maze, integrators often have to raise courtroom floors. The additional wiring expense comes at a time when less complex presentation systems require only a few wires. And when wireless technology is rapidly making cord clutter a thing of the past.

But to compare e-lectern systems with the famed \$640 toilet seats the military bought in the early 80s would be unfair. The podiums, crammed with electronic gear, are

competitively bid and worth, at least, the sum of their parts and labor. But the approach is distinctly bureaucratic: The e-lectern technology were hopelessly obsolete by time hundreds of systems could be installed.

What courtrooms need is gear that is cheap, easy to use and easy to update. Open-source, plug & play stuff. Attorneys who have been riding bikes don't need to jump (or be pushed) all the way up to Cadillac Escalades. Stripped Honda Civics would do nicely. Perhaps, for trial, that would be something like a plain old laptop, LCD/DLP projector and a screen—the same systems many attorneys already bring to court, on their own, at their own expense.

Except for courts that have money growing on trees, courts should provide the display part of the system, with corresponding wiring, and let attorneys provide the computer input part. Leftover flip charts, doc cams and VCRs can be stuck in the closet where, hopefully, they will gather dust. But remain available for technophobes.

Content

Old Wine in New Bottles

But there's a lot more to the case against e-lecterns than their design flaws. What about content? High-tech gear mostly amounts to pumps and pipes. They merely process, store, move and display content. Content is what comes out of the pipes. The axiom "garbage-in, garbage out" applies in court as elsewhere. A lawyer who presents high-content images on a low-tech exhibit board will out-communicate an attorney who presents low-content images on a high-tech plasma screen. Any day of the week.

The legal industry has not only trailed other industries in its use of communication technology. It also lags far behind in content—in how words, photos, charts, sounds and video are created and delivered. Digital technology can help attorneys create and display content faster, cheaper, and clearer. But it cannot rescue bad content. You can put techno-lipstick on a pig but most judges and jurors will still recognize it as a pig.

One way, among many, of improving content is to ramp up the quantity and quality of visuals used in pleadings and at trial. Radio-era judges and juries, to put it bluntly, are dying off. Lawyers, for the most part, now communicate with television-era, visual learners. Yet briefs and oral arguments are filled more with words than pictures and sounds. Legal communication is awash in seas of black ink on paper and waves of blah, blah, blah in the courtroom.¹

A laudable e-lectern goal is to promote visualization. Most of the components have to do with imagery. The convoluted technology aside, the motive to encourage visual litigation is on target. But, even if you can lead a horse to water can you make it drink? If you build it will they come? And will attorneys know how to produce high content for the high technology?

The federal court system began dangling the high-tech carrot to encourage improved document management and visual litigation when it launched the Courtroom 2000 project. In the beginning, five years ago, the feds outfitted experimental, selected courtrooms around the country—like Judge Jenkins' in Salt Lake— with the new gear that included document cameras, video playback machines and computer connections located in the podiums. An Administrative Office survey had found that 87% of judges

and 83% of jurors reported that the use of the pilot technologies improved their understanding of the evidence; 79% of judges reported an improved ability to reach a decision.

It was progress. The document camera did speed the presentation of paper documents. “The high-tech trial goes by quickly,” said Fredric I. Lederer, professor of law and director of the Courtroom 21 Project at the College of William and Mary School of Law. “Our conservative estimate is that such trials are at least one-fourth to one-third shorter than traditional trials.”

The survey reports, however, did not break down which trials relied exclusively on document cameras and which featured computer document presentation.

The late Arizona federal judge Richard Bilby was one of the promoters of the federal court’s *Courtroom of the Future* project.² Indeed, Judge Bilby may have started the ball rolling eleven years ago when he insisted attorneys present documents not with document cameras but off computers in the S&L/Charles Keating trial. He told *The San Jose Mercury News* technology can trim trial time:

“If you know how to use this stuff right, things go boom, boom, boom,” said U.S. District Judge Richard M. Bilby, who approved the use of a computer system as far back as 1992, during Keating’s civil trial in Tucson. Bilby estimates computer technology can reduce trial time by 25 to 50 percent. “Ultimately, the jurors will take a computer back into the jury room that will allow them to access things that are admitted into evidence,” Bilby said. “If they have any questions, they can just call it up themselves. I mean, God forbid we have a jury that’s fully informed.”

AO director Ralph Mecham—a former Utahn—wants all federal courtrooms outfitted with high-tech presentation and conferencing equipment, a move that’s well underway, decelerated only by federal budget cutbacks. But the hodge-podge approach may end up being counterproductive, hampering not spurring visual litigation.

Document Camera-Based High-Tech Systems *A Closer Look*

Upstairs from the courtroom where Stan Preston tried the Novell case, on the fourth floor of the federal courthouse, is Utah’s “Electronic Courtroom.” Its centerpiece is a DOAR lectern stuffed with goodies: a video document camera, annotation tablet, VCR and audio playback machines and a laptop inlet should someone want to show exhibits from a laptop hard drive rather than from the document camera. Jurors view the evidence on a 42” CRT monitor.

Preston could have asked to transfer his trial to the e-courtroom, saving the cost of a screen and projector, and sparing a lot of packing and setting up. Yet he passed on the chance. The reasons behind his decision highlight the struggle the courts are having in making the leap from ultra-outdated to ultra-modern.



DOAR e-podium, similar to the one in Utah’s federal court.

The e-lecterns are being supplied to the federal courts by several companies. Besides DOAR, other major companies include RSL (Utah's U.S. Attorney office has three of their portable Atticus systems), ExhibitOne, Quantum and Advanced Courtroom Technologies (its LitigationStation was deployed by the government against Microsoft).

More recently Utah's federal court has plunged deeper into the power podium concept. Exhibit One won a bid to e-lecternize the remaining courtrooms. The package included two portable carts to be shared among six courtrooms, 42-inch monitors to use with the carts, and LCD flat panel jury displays for the chief judge's courtroom and one other. The whole kit and caboodle cost about \$264,000, an amount that also included wiring (some conduit had already been installed under an old contract) and a sound system upgrade for the chief judge's courtroom.

It's true that e-lecterns, generally, are marvels of courtroom technology and permit the use of analog and digital devices, paper and paperless approaches, annotation and, in some cases, printing. Five years ago, when inexpensive laptops could not run digital video smoothly, power podiums with their analog VCR machines were state-of-the-art. E-podiums, after the 1995 OJ Trial, simplified the complex wiring that made Judge Ito's courtroom look like a movie set. Electronic lecterns, for a fleeting two or three years, represented the very best in courtroom presentation systems.³

But there are five key problems with the concept; problems which helped dissuade Preston from using Utah's existing electronic courtroom:

1. The lectern technology is centered on low-tech document cameras, often referred to by the brand name of one of the suppliers—Elmo.⁴ Stick a paper document or other small evidence piece under the camera and the evidence is brought to life on a big screen or monitor. The Elmo was made famous in the Simpson trial (“put it on the Elmo” was said over and over.). Because of publicity the Elmo seemed to be advanced even though the less-publicized Keating trial three years earlier was higher tech. Document cameras, good press or not, remain glorified overhead projectors, inexorably connected with paper presentation.
2. The electronic lecterns combine analog and digital technology in awkward fashion.⁵ Complex cabling and converters are required for digital and analog signals to coexist. A scan converter is needed to change VGA (digital) to analog and a line doubler to convert analog video to VGA. DOAR president Nick Croche, on a marketing videotape concedes, “When adding technology to your court this adds a level of complexity because you must marry computer-based technology with commonly understood video-based technology.”
3. Most of the systems are proprietary. That means only the manufacturer may be able to perform service after the warranty expires. It makes upgrading or updating by other vendors and integrators more difficult.



Doar President Nick Croche: “A level of complexity...”

4. The weight and bulk of the podiums make them hard to move around the courtroom. Although the lecterns can easily output to a projector and screen, they're often configured with multiple jury flat panel monitors, a very poor display solution. E-lectern bulk discourages the use of the better single screen solution because it's more difficult to move the podium next to the screen where it should be located.⁶
5. Power podiums make practice difficult. To practice on the system you have to have one. While courts welcome attorneys who want to practice, Mohammed still has to go the mountain. Conversely, digital presentation systems, centered on laptops, not only go to Mohammed, they travel with him as well. A laptop-centered opening can be practiced anywhere a laptop can go.

The power podium computer/television hybrid approach is reminiscent of the time, in 1976, when Xerox was evaluating recommendations from two teams for an office of the future workstation. The research team from the Palo Alto Research Center (PARC) recommended its Alto III prototype, a personal computer that would have predated the IBM PC by several years. Another concept was being pushed by Xerox's Dallas office systems subsidiary: the Xerox 850, essentially a typewriter with computer-like disk storage and a printer—a hybrid digital/mechanical device. Xerox picked the mechanical/computer machine.

The same thing happened to Wang. Wang Labs made billions in the mid-1980s selling word-processing workstations for office workers. But, like today's e-lecterns, the Wang equipment was proprietary. Off-the-shelf PC's ended up burying the Wang concept back then just as laptops will eventually supplant already-obsolete electronic podiums. It's just a matter of time.

The Xerox and Wang analogies really don't go far enough. The Alto III computer, at the time of the Xerox decision, was not proven technology. And PCs were less developed than Wang word processors. Today, however, digital presentation systems *are* well-proven and far simpler, cheaper and more reliable than cumbersome e-lectern conglomerations.

So if cheaper, simpler, non-proprietary systems are available for federal courtrooms, why are e-podiums still the rage?

Babysteps is the answer.

Proponents of e-lecterns argue that so many attorneys are so far behind using computers that they need the option of using document cameras. The premise is those attorneys cannot be easily weaned off paper. David Rickerson with the federal court's AO Space and Facilities Division, said, "The document camera is not going to disappear. That's the bottom line." "Judges feel like they've got to provide the capability for attorneys who don't have the sophisticated capability to come in the courtroom and present their case without any bells and whistles."

Winton Woods agrees with the notion document cameras are old technology. But he also agrees with the AO that the courts need to provide them for computer-illiterate attorneys. "I think a courtroom without a document presenter is a mistake." Woods, who was director of the Courtroom of the Future Project at the University of Arizona College of Law added, "And there's a lot of stuff on video tape. It hasn't gone away." "If the

courtroom is going to be responsive to the real world it needs to have the capacity to bring in what you and I would probably agree is archaic technology.”

Woods is a pioneer in advancing courtroom technology. His courtroom at the U of A replicated the Elmo-centered system at the OJ trial but used less expensive, better integrated components. Not to mention a preference for digital document management; Woods was inspired by the computerized Keating trial.

Perhaps it’s a democratic streak in Woods that prompts his defense of document cameras even though he prefers computers. He won’t discriminate against paper shufflers. But also has a commercial interest. His company, CourtTech Systems, promotes MediaTech e-lecterns, several of which are document camera centered.⁷

Digitally-Based, Laptop-Centered Systems



An alternative to paper, document-camera-centered systems are paperless, digitally-centered systems. Paper documents, video, audio, charts, graphs, everything—even evidence like guns and crime scenes—is digitized and ends up stored on a hard drive. Such as a laptop hard drive.⁸ Computer-based, paperless systems are cheaper, lighter, easier to learn and easier to use. And attorneys can plug in any additional components like printers and annotation tablets—often part of e-courtroom

systems-- if and when they need them.

Components of many all-digital systems already have converters built in to accommodate attorneys who still want to use document cameras. For example, most LCD and DLP projectors will accept computer inputs from a laptop *and* composite signals from an analog document camera without the expense of a separate converter common to many e-lecterns. Ditto annotation devices like the Boeckeler Pointmaker PVI-X90 and display devices like Plasma Screens that have video scalars built in to accommodate connection of VCRs and document cameras, if desired.

It’s all plug & play and open source. Like Linux compared with Microsoft’s OS. Because these systems are not proprietary the court’s IT staff can get under the hood and upgrade components.

A laptop-based system can be as simple as a computer, projector and screen as used in the Novell and Weitzel cases and hundreds of other cases around the country where attorneys supply their own stuff. Upgrades are optional. By using an LCD projector that has an extra VGA output, or by adding a video distribution amplifier, an extra monitor for the judge’s bench can be hooked up, if desired.

The next step up the complexity ladder—in a laptop-centered system—is to build in the wiring, perhaps creating a digital system around a dedicated switcher/video distribution amp such as Court Director, Court-PC-View or CourtView. Those small boxes provide multiple computer inputs, multiple monitor output and a so-called kill switch for the bench.

So why do e-podiums continue to sell like hotcakes? For one, the AO of the federal courts has a list of approved vendors, and the document-camera centered system

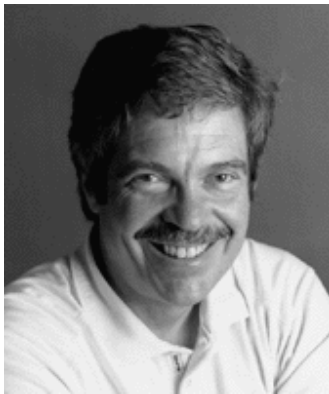
is the AO's system of choice. No vendor is needed for the most basic computer-centered system. Everything can be purchased off the shelf at Best Buy or CompUSA.

In Big Sky country, the Montana federal court acted as its own vendor, a move the AO will permit if the system is a retrofit. The Montana court designed its own component system rather than using a turnkey, propriety presentation system. While still designed around a document camera and using an e-lectern, the Montana presentation systems were spec'd, sourced and installed locally. Systems manager Vern Larson said it cost about \$30-40,000 per courtroom, saving about half over a system from an outside supplier. Their systems use their own, custom-built cabinets that cost about \$5,000 each.

Interestingly, the Montana podiums do not have laptop inputs like conventional, "factory" e-podiums. But Larson's systems do have laptop plug-ins at counsel table.

The Laptop PC: A Visual Communication Device

Visual communication was behind the invention of the personal computer itself. Before PC's debuted in the late 70's, computers were mainly used to crunch numbers. Large mainframes like NECs and IBMs spit out information on paper tape, punch cards or printed paper. Not user friendly to operate or read.



U of U graduate student Alan Kay, father of the portable PC concept

University of Utah graduate student Alan Kay envisioned the concept of a graphical-oriented, laptop computer, describing it in his 1969 doctoral thesis. Called "Dynabook" the proposed device had a screen as a display instead of indicator lights, paper tape or punch cards. (While at the University of Utah Kay also participated in the original design of the ARPANet, the precursor of the Internet.)

When the prototype of the first practical PC⁹--a Xerox Alto-- was fired up in 1973, the first image its inventors put on its screen was not numbers that were most often cranked out by the room-sized mainframes of the day. Or even words like those spewed out by soon-to-become obsolete word processing typewriters. It was, instead, a visual. Alan Kay, who had joined PARC, created an animation of Cookie Monster holding the letter C and munching on a cookie. The PC was not invented to supplant a Univac as a calculator but to become a communications device—and it was born with a moving image on its screen.¹⁰ "(T)his is the man whose playful digitized image of Cookie Monster launched the age of the personal computer," wrote author Michael Hiltzik. The PC was designed to be a multi-media machine that anyone could use. Including lawyers in courtrooms.

Computers enable attorneys, the best of whom are good verbal storytellers, to more easily become visual storytellers and meet the expectations of TV-era jurors. Julie Michaels wrote about that in her review of New York Law School Professor Richard K. Sherwin's book¹¹:

"Lawyers have always been storytellers," says Sherwin, "and the way they tell their stories reflects the culture of the day." Today that culture is predominantly visual. We not only absorb the law on television, says Sherwin, but lawyers,

recognizing a jury's comfort with that medium, have brought the visual image into the courtroom.

He is speaking not of the television cameras that have recorded so many well-publicized trials, but of the video monitors that have become ubiquitous in courtrooms. They're necessary, says Sherwin, because more and more of the evidence displayed is visual. "There are video cameras attached to police cars, surveillance cameras all around us, in banks, stores, parking lots. People now videotape crimes in progress. When you add graphics, simulations, and visual depositions, much of what a jury is asked to respond to looks like a television program. "Courtroom performance also follows a television format, says Sherwin. Juries schooled in the sound-bite respond best to abbreviated presentations.

Displays

The Cart Before the Horse

Because most e-lecterns provide inputs for laptop computers, why didn't Stan Preston go ahead and use the electronic courtroom for the Novell trial anyway? E-podiums do not discriminate against laptop users. An attorney is not required to use the archaic doc cam and VCR machine. E-lecterns also output to a variety of jury displays: a



CRT monitor, front projection screens, rear projection screens, plasma displays, white boards, and smaller, flat panel LCD displays. You name it.

The deal-killer for Stan was the Utah courtroom's 42-inch CRT display. It's too small. And if placed close to the jury box—as it must—it blocks some courtroom sightlines. Stan opted for a 6'X8' projection screen.

Indeed the federal court seems to have it ass-backwards, with its cart-before-the-horse approach. Input devices in the lectern get priority over output displays. That's why Utah had to settle for two monitors rather than equip all its courtrooms with jury box displays. It spent most of the money on e-lecterns. It's the AV cart before the display, the real workhorse of any system.

Displays are where the rubber meets the road. They should get priority. Multimedia courtroom design should begin with the display and work backwards. If the courtroom is going to provide anything, it should begin with what the jury sees.

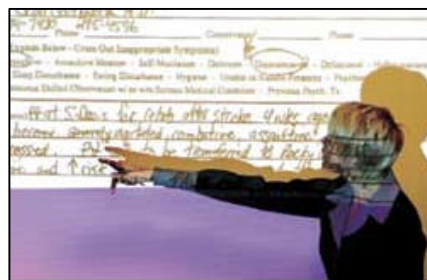
I recommend a single screen for jurors—ranging from 4'X6' to 6'X8' placed as directly in front of the jury box as possible, with the lectern off to the side. (I use a 5'X7' DaLite InstaTheater.) More on single screens in a minute.

LCD displays in the jury box-- are becoming the jury displays of choice for many courtrooms.¹² If placed low they don't block view of courtroom wells as do CRT monitors. They make no noise as do projector fans. They're popular enough that Utah's federal court opted for flat panels for the two courtrooms it outfitted in 2002.

Nevertheless the jury flat panel approach, despite those positive aspects, is bad. Really bad. While flat panel displays do rate an "A" in terms of some technical problems they solve, they earn an "F" in connection with the presentation problems they create. And they get a D for creating unnecessary wiring, cost and complexity. They reflect the federal court's infatuation with technology over content.¹³ The multiple-jury box, flat panel monitor concept's four main disadvantages are significant:

- They require complex wiring
- They're relatively expensive
- Some are hard to view and could cause ergonomic strain
- They direct jury attention away from the litigator or witness.

The latter is their biggest drawback. Litigators usually should stand next to the evidence they present so they're in the same field of view. They shouldn't be positioned so that jurors have to look back and forth like they're watching a tennis match. When displays are in the jury box the litigator loses juror eye contact and suffers a diminished role in the presentation of evidence. It would be like watching a television weathercast on two sets in your living room where one screen had the weather presenter, the other—across the room—the weather charts. (Doc cams create the same problem even when used without jury box monitors unless the document camera and podium are set up next to the screen.)



At a glance: the trial lawyer and her evidence

Jury box monitors' relatively small size and low position are other drawbacks. How many homeowners, when they set up television equipment in their family room, opt to equip the couch and each chair with multiple LCD panels? Like none. Most prefer a large single screen, usually placed at eye level, a display that provides a common viewing experience.

Courtroom presentation expert Deanne C. Siemer also says an LCD projector and a big screen is a good choice over computer monitors. "The little monitors are devilishly hard for lawyers. Jurors have their heads bent down looking at the monitors all the time, and they miss all of your best lines," she said.¹⁴

Houston trial attorney and consultant Samuel Guiberson does not like small screens either. "The only practicable way to demonstrate digital evidence in court is with a digital projector and a screen all the jury and parties can see," he said. "The screens in the jury box are always too small to see detail in a document...and such an arrangement drives the jurors' heads down into the monitors and away from the dialog."

Guiberson also believes attorneys should decide on their own input technology: "We do not need to impose court-sanctioned standardized sets of court technology components on litigants and then compel them to use what they find at the courthouse. We need to avoid trapping our courts in the trappings of perennially outdated technology."

Courtroom technology pioneer Winton Woods once touted small screens. He tells the story of a trial he observed where jurors seemed glued to the evidence on the flat panel displays in the jury box. "I was really struck by the attention the jury was paying to the publication of documents using the LCD panel," he said. "Every time I gave a talk I commented on how they would bend over and peer and pay very close attention."

But then Woods had a chance to see the displays, up close, at a courtroom in Washington, D.C. "I decided since I never actually sat in a jury box while someone was doing this I wanted to see what it was like in light of that particular experience that I had.

I sat in the jury box and immediately understood why they were bending over to look at the monitor. It was not easy to see what was in the monitor.”

Woods, referring to a good projector and screen, said “the quality of the image, particularly on a document that may have very small text, is just a whole lot better. And with photographs and charts and things like that it’s enormously better.”

The National Law Journal recently wrote about the display choice made by Magistrate Judge Robert Shemwell for the federal court in western Louisiana. Although many new technology courts have been installed with individual monitors for each juror or every two jurors, the story said, Shemwell prefers one large screen opposite the jury box. "With individual monitors, jurors have to look down at their screens, up again to see the witness and over to see the lawyers," he says. With one large screen, jurors see the entire panorama of the room without being distracted, he says.

Just as the three keys to real estate are location, location and location, the three keys to courtroom presentation are location, location and location. Where is the display located? Where is the attorney located?

The best location for the screen is a single screen centered on the jury box. The attorney’s location is equally important. The podium should be located next to the screen, to one side or the other, facing the jury box. That puts the presenter in the television weather presenter position.

The simplest way to accomplish the single screen concept is to use a front LCD/DLP projector and a fabric screen.¹⁵ Rear projection setups, where the projector is behind the screen, have benefits: less fan noise, no projector in sight as a visual distraction, and no projected light cast on the litigator as he or she works in front of the screen. But rear projection requires space behind the screen that most courtrooms do not provide. And they cost more.

Plasma displays don’t require any projector, of course. Even though they are relatively small and expensive a few courtrooms use them anyway. In about a decade, though...

One clever solution, for small to mid-sized courtrooms, is the portable, rear projection SMART board, model 1802 with a 6’ diagonal screen. The screen and projector are built into a rolling cabinet that can be shared among courtrooms and easily adapted to various courtroom layouts.



**SMART Board
Rear Projection**

Visual Content in Pleadings and Openings

Written and spoken words dominate legal communication, with a photo shown here and a chart tossed in there, often as lip service to the power of visual communication. Ironically before the invention of moveable type in Germany, law books in that county were richly illustrated with images that enhanced the text.

German legal scholars Dr. Stefan Röhl and Stefan Ulbrich opened their paper on a history of legal visuals with this observation: “The dominance of words in modern law is a bit mystifying. Most common legal information consists of text and only text.”

Röhl and Ulbrich trace the domination of text in legal circles back to The Middle Ages. In the early 1400s legal books were abundantly illustrated. By hand. But after Gutenberg invented moveable type, “the number of pictures in legal books fell off quickly, leading to today’s lack of pictures,” they wrote.



13th Century German legal codes were well-illustrated; the art lost with the advent of moveable type.

But now the long legal tradition of word-dominant pleadings and talk-dominant oral arguments is crumbling under the weight of the growing numbers of visual learners and the increasing availability of low-cost, high-powered presentation equipment.

Visualizing should begin with written pleadings: Photographs of key parties and locations, charts, graphs and timelines. The illustrations should not be attached as exhibits but embedded near the text that relates to them. Like a magazine article.



A PowerPoint visual aid can be used in a courtroom slide show and in a printed pleading.

Lawyers should draft a visual opening statement at the outset of the case, to help the creative process for writing pleadings. Visualizing court papers is a prelude to the eventual preparation of a visual opening.

One reason to produce a PowerPoint opening early on, is that PowerPoint slides can be saved in a .gif or .jpeg format and stuck in printed documents. (Like the illustration to the left.)

The mere use of presentation technology and software jump-starts the visual thought process. “When lawyers adopt display technology, the number of exhibits, particularly illustrative aids, often increases dramatically,” says the Federal Judicial Center guide to using

courtroom technology.

That *Guide to Pretrial and Trial Exhibits* says even the simplest use of PowerPoint helps tighten lawyers’ presentations: “Simple bullet-point slides that outline the opening statement provide a very effective way for new users of courtroom technology to stay focused and get away from notes on a yellow pad. The court may want to encourage lawyers to use this method because opening statements guided by slides are often shorter and more to the point.”

That’s also why preparing an opening statement at the outset may help tighten and visualize written pleadings. It also cements a case theory and focuses discovery.

Images are at the heart of improving jury communication. Charts, diagrams and photos, of course, have been used for decades. The difference is that digital technology enables more of them to be produced, at lower cost, and more easily presented.

Colorado attorney Stephen J. Harhai wrote about the synergy of technology and visual content after he served jury duty:

I couldn't count the number of times that witnesses and lawyers struggled over a document or photo. Exactly where was the object placed? How was it connected? Where was it in relation to another component? A simple diagram that would have taken 15 minutes to create in PowerPoint could have saved hours of confusion in court. Plus, when there was an exhibit, it was difficult to see. Putting a lot of illustrations or photos on the screen with a computer projector would have helped tremendously.

Right now many attorneys, perhaps most, are at the walking stage when it comes to visual, electronic presentation. They're so far behind they need to learn to run and to chew gum at the same time. They need to learn how to operate gadgets and how to produce content in one fell swoop.

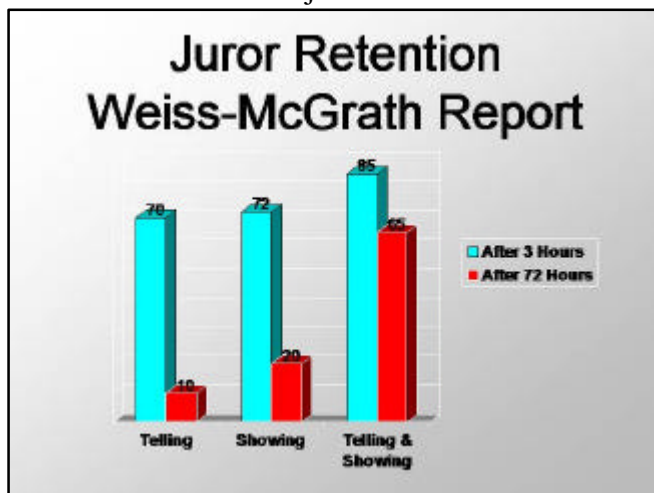
Maybe that's why the leap to modern visual communication is so great. Attorneys not only need to learn how to run PowerPoint. But how to program it as well.

Luckily, a how-to guide for those programming skills, is no further than their local television station or university communications department. Television news writers and producers have been honing their visual content skills for decades and adapting them to a succession of technological advances. Television presentation techniques present two advantages for trial attorneys:

- Most judges and jurors are television viewers and are comfortable with television-style, visual storytelling.¹⁶
- Television's production and presentation methods have been refined over several decades of fierce competition in the television news industry.

Given the availability of visual presentation know-how, why should attorneys have to reinvent the wheel?

Lawyer's who need proof of the power of showing and telling—a fundamental of broadcast news—can find it in one of their own studies. A legal-specific survey that focused on information jurors retain shows that showing and telling, at the same time,



promote powerful communication. The Weiss-McGrath Survey found that jurors, after three days, will recall six times more information if they see and hear it as opposed to only hearing it. Yet most opening and closing statements continue to be big on talk and little on show.

Once, I was working with an attorney on a PowerPoint slide show for a hearing on some complex issues, creating charts and graphs and inserting photos.

At one point we came to a section that was relatively easy to explain. “I won’t need any graphics for this,” he said. “I can tell that on my own.” A television anchor would not say that.

That’s the misconception in a nutshell, even by a pro-technology attorney. Visuals should not be deployed to merely cover weak delivery skills or prop up a weak case. Skilled presenters and good cases get stronger using advanced technology, content and know-how.

Television reporters write concisely, to the point and to visuals. There’s not a lot of time for aimless meandering as they work to keep a tight connection between the verbal and visual components of their presentations. TV anchors rarely ad lib, partly because of timing constraints but also so that narration and visuals must be closely linked.

Lawyers, like television news writers, should script their presentations, especially openings and closings. The script becomes the basis for adding the supporting visuals in PowerPoint: text bullet points, charts, graphs, pictures and video clips. A slide for every point in the script creates the so-called the wall-to-wall effect—an opening or closing that is completely illustrated.

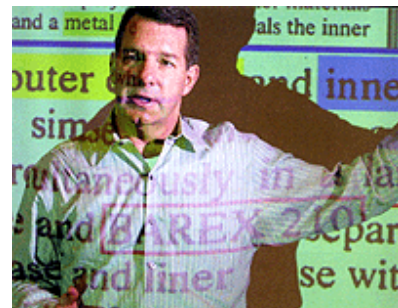
Here’s a pacing rule of thumb: Each slide—given that some take less and others more time—requires about a minute to narrate. An hour-long opening statement may consist of about fifty to sixty PowerPoint slides.

After the basic visual story is in place an attorney can script a mini-narration or two that, for effect, has no visual support. Standard flipcharts, poster board exhibits and props can also be worked into the slideshow. Low tech can complement high tech. For example, imagine an attorney who is at the screen, presenting one compelling slide after another. Then, to change pace, he or she walks to a new position, and presents a thought without visual support, using different inflection and speech rate. The technique can also involve a physical prop. It’s especially effective during closing when a more argumentative tone is permitted.

Lawyers don’t require a television control room to orchestrate their presentations. They can produce it themselves on a laptop keyboard. Phil Beck, the Chicago attorney who helped George W. Bush win the Florida ballot case, is a maestro on his laptop. In a hearing or opening statement, using TrialMax Software and his laptop, he pulls up graphics and documents like a magician pulling rabbits out of a hat. And he uses a script.

“For the opening statement, we tell our story using many visuals,” Beck said. “We believe that people absorb a lot more information visually than they do otherwise. Moreover, using a variety of visuals keeps the jurors’ attention. For this reason, we spend a huge amount of time choosing the visuals for the opening. We literally choreograph moment to moment what the jury sees; much the way a screen writer scripts a screen play.”

Whether it’s called a news script, screenplay, or closing outline, good writing is a prerequisite for visual courtroom argument.



Phil Beck working at the courtroom screen

Good journalists and good attorneys also cut to the chase. TV journalists dub it *inverted pyramid* (most important or interesting item on top). The very beginning of an opening statement should not be used to thank jurors, apologize to jurors, introduce litigants or warm up your voice. Present your case theory—your storyline—at the very outset. Then package the presentation in sections, like a television newscast. Some attorneys use different-colored slide backgrounds for each section.

Video—deposition clips, walkthroughs, re-creations, etc.—is vastly underused at trial. Most depositions should be videotaped, primarily, so you can use clips during opening statements. Secondly, many witnesses need not appear at all. Their hours-long depositions can be edited down to minutes and presented off the hard drive in much less time than a live appearance. Some courts already have remote witnesses appear live via teleconference, another form of video presentation.

Most of Utah’s state courtrooms are equipped with video cameras. It’s a no-brainer to use testimony clips in closings.¹⁷

No law firm should be without at least one digital still camera and a DV camcorder. Attorneys can shoot a lot of their own stuff. Large firms could also make good use of a video-editing PC like an iMac iMovie, Sony Digital Studio, Dell Movie Studio, Compaq MyMovieStudio among others.

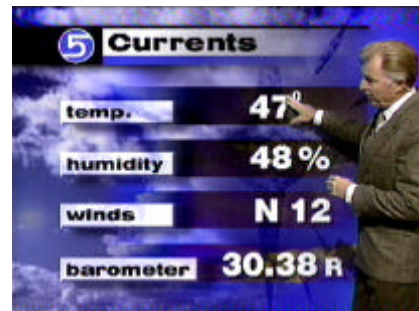
Courtroom Presentation

Television weathercasts of the 60’s were typically five or six minutes long, partly because weathercasters were writing out figures on a grease board. Modern weather segments, thanks to dazzling technology like satellite images, live radar and animated graphics, are much shorter, perhaps half as long. Yet packed with more information. Trial lawyers would do well to follow in those footsteps by presenting more information, more clearly, in less time.

The image of a weathercaster working at a screen is familiar to almost every judge and juror, if not all. It’s a format easily replicated in most courtrooms. The presenting attorney should be in the same visual “frame” as the screen, like the TV weather anchor next to the weather board on a news set.

Even if you use a gazillion-lumen projector, dim the courtroom at least a little. (Remember how distracting it is when they don’t dim all the lights in a theater?) Low courtroom lighting keeps the “spotlight” on the attorney and his or her visual evidence. Make sure, however, the attorney’s podium area is lit so he or she does not disappear into darkness next to the screen. (We used a theatrical light for one trial and a makeshift but effective desk lamp with a theatrical, diffuser gel at another.)

Point to words or images on the screen using your hand, like a television weather presenter. Don’t use herky-jerky, follow-the-bouncing-ball laser pointers. (Legal technogurus Fred Bartlit and Phil Beck pointed by hand in the Florida ballot case.) Your software may also permit text highlighting like Bartlit’s and Beck’s TrialMax. Other legal presentation software does that as well. Lower-end software like PowerPoint and



A format familiar to jurors



Attorney Tara Isaacson making points, visually, during a hearing on the Robert Weitzel wrongful death case.

Corel Presentations still enable you to use animated underlining. You can add a drawing tablet “telestrator,” like a Boeckeler, to your laptop, if desired, for more flexible annotations. Newly introduced tablet PC’s may also open up a whole new, low-cost avenue for courtroom annotation, dealing another blow to e-podiums’ viability.

If you practice your script often enough—and you should—the presentation will have an adlib quality to it. Do not use bullet points on the screen as cheat sheets. In other words, don’t merely read from the screen. Lead into some slides by talking about them before you show them. Do use paper notes, such as

PowerPoint’s notes pages, if necessary. If so print them out on darker paper so they don’t catch the light—another TV anchor trick.

PowerPoint 2002 as a part of Office XP has a new feature, Presenter View. That picture-in-picture view enables the presenter to see both the current slide and next slide on his or her laptop while the jury sees the current slide on the screen. It’s a great method for prompts, but as of now only works with certain operating systems, initially not with XP.

Demonstrative Evidence Rules

Judges have rather broad latitude in determining the admissibility of illustrative aids, videotaped deposition clips, etc. Case law indicates if a judge permits highly graphic opening statements that use lots of illustrative aids, produced within reason, objecting counsel would likely not prevail on appeal. But the converse also appears true. If a judge tosses a lot key visual images, even out of techno/visual phobia and computer illiteracy, his or her decision is likewise not grounds for a successful appeal.

Some judges want to rule on virtually every single opening admissibility issue. It is one way to skin the cat. Another way to reduce judicial micromanaging is for the court to establish fair rules that let opposing counsel compete, less by trashing opposing counsel’s stuff, but more by presenting a superior case.

Attorneys who present highly visual opening statements are usually very well organized. Opposing counsel, if less prepared, may try to undermine their opponent’s preparation by objecting to anything and everything in the visual opening. Instead of going to the same effort.

Judges who permit that game reward slothfulness. They help preserve dark-ages litigation. Rules should encourage attorneys to build up their own cases rather than to tear down their opponent’s. The rules would also provide more consistency from one judge to another. Some attorneys fear investing in visuals out of fear a judge, given his or her wide discretion, will merely kill the effort. There are horror stories out there.

Some courts—thus judges—encourage the use of more visuals by supplying multi-media equipment. But that’s not enough. I have suggested to more than one judge

that the best way to promote visual litigation is not by supplying the equipment. The best way is by creating rules that promote fair use of visuals and high technology such as digital document presentation. And, for some cases, by ordering that documents be digitally presented.

Here is some suggested language for court rules I believe would promote greater use of illustrative aids during openings and in the trial itself.

Suggested Court Rules

- This Court encourages attorneys to use presentation equipment and visual litigation methods to improve jury comprehension and retention and to reduce trial duration.
- These rules that encourage visual litigation will be supplemented by others that promote improved jury service, such as providing for mini-opening statements (PowerPointed if counsel desires) prior to jury selection, abbreviated preliminary jury instructions and orientation by the court, lawyer mini-summations midway through long trials, lawyer-prepared juror notebooks¹⁸, and plain language jury instructions. When appropriate, judges in this district intend to use presentation equipment for jury instructions.
- These rules are meant to promote the use of presentation technology for opening and closing statements and for paperless document presentation during trial. Software such as PowerPoint or Corel Presentations can be used for openings and closings, sometimes in conjunction with more sophisticated trial software such as Sanction, TrialMax, Visionary and Trial Director, among others.
- This Court strongly urges attorneys to present their documents, digitally. Under some circumstances judges will *order* that documents be presented digitally. Digital document presentation can shave days, sometimes weeks off the duration of complicated trials. During the trial documents and evidence can be quickly accessed and presented using Adobe Acrobat, PowerPoint or specialized document presentation software like DocuLex View-it or programs like those mentioned in the last paragraph. Barcode readers that work with trial software or directly with DVD players or portable hard drives can provide instantaneous access to the evidence. This Court discourages the use of overhead projectors and document cameras that rely on paper documents.
- Attorneys are encouraged to present a concise, visual summary of their cases in their opening statements. Illustrative aids and demonstrative evidence can make openings more compelling; aids such as photographs, charts, drawings, timelines, analogies that portray a case theory, deposition video clips, computerized animation, video recreations, etc. As usual attorneys may only present visual evidence that has been admitted or that he or she has a good-faith belief will be admitted or allowed for demonstrative purposes. Visuals used in openings that are not used or not permitted to be used in the trial are subject to attack by opposing counsel during closing.
- All visual aids not previously used in pleadings and hearings must be approved by the court, in advance, through stipulation or a motion in limine. Disclosure is the primary criteria for court approval. Only those exhibits that clearly cross the line

will be prohibited. The burden to show non-compliance lies with the objecting counsel.

- Well-crafted, visual openings can lead to saving trial time and promote jurors' understanding of evidence that is expected to be admitted. The court, as usual, will precede openings with the instruction that an opening statement is not evidence.
- The following exhibits are permitted in openings and closings, if approved by stipulation or by the court via a motion in limine, with *disclosure* the primary basis for permission:
 1. All exhibits, real and demonstrative, previously used in pleadings and motion hearings. They do not require approval by stipulation or motion in limine because they are deemed adequately disclosed to court and opposing counsel.
 2. All exhibits, real and demonstrative, that counsel has an honest belief will be admitted into evidence. (These "new" exhibits must be exchanged with opposing counsel five days prior to final pretrial conference unless the Court grants an exception.)
 3. Exhibits intended for use in openings, closings or in trial, unless clearly bogus or prejudicial to the point their use outweighs their probative value, will be admitted over opposing counsel's objection. The primary remedy for objecting counsel is to counter with more accurate visual evidence and/or attack the validity of the exhibit at issue. Jurors will decide whether illustrative evidence is being used unfairly. Bad summary and illustrative aids usually backfire.
 4. All photographs will be considered self-authenticating by this Court, but subject to review and attack by opposing counsel for any unfair or inaccurate portrayal or manipulation in connection with the way the photo was shot, processed or edited. Photos that have been manipulated for the purpose of changing their true meaning (i.e.: to distort the facts) will be disallowed and the providing attorneys will be subject to sanctions.
 5. This Court endorses the use of clips from video depositions during openings. Videotaped depositions that will be used in whole or part during trial must be shared with opposing counsel at least two weeks before the final pretrial conference, unless an exception is approved by the court. Any clips to be used in opening must be provided to opposing council in the format that will be used in the opening, such as AVI, MPEG1, MPEG2, QuickTime, etc. and/or clearly designated in the written transcript. The court may allow, at pretrial conference, "tardy" clip submissions opposing counsel plans to use in opening to respond to admitted clips.
 6. Video testimony clips will normally be approved for openings and for witness examination. Disclosure is the primary basis for admission. If the editing is such that a statement is taken out of context then opposing counsel has adequate time to edit his or her version of the clip for use during opening or the case in chief. Without being argumentative counsel may, during opening, point out any real or imagined flaws in any actual or perceived selective editing of opposing counsel's clips.

7. Clips of trial testimony. Where courtrooms are equipped with cameras and recording equipment attorneys are encouraged to use video clips of key testimony during closing. However they must share a written transcript of the content of the clip or a copy of the clip itself to opposing counsel the day before closing so opposing counsel has a chance to counter if any statements are out of context.
8. Computerized animation, such as computerized accident recreation, and video such as scene walk-throughs and day-in-the-life segments, are permitted but are subject to the same rules as other illustrative aids. Disclosure rather than court ruling is the primary means of permitting use in openings. Opposing counsel is free to submit illustrative aids that reflect his or her case theory and also free to attack the validity of opposing counsel's aids. (But any "attack", during openings, must be explanatory, not argumentative, taking this kind of form: "Opposing counsel's diagram shows X but we intend to show it was more like this diagram, Y.") Jurors will weigh, based on supporting evidence, which illustrative aids are fair and helpful and which are attempts to pull the wool over their eyes.

9. Analogy (theme) exhibits are allowed and encouraged to explain case theory and simplify complex case for juries. They usually take the form of a drawing, photograph, movie clip, biblical or literary quote, song lyric, illustrated poem, prop, etc. Attorneys, however, are usually more reluctant to share analogies before trial because they don't want to give away their entire opening strategy. Therefore, analogy exhibits only must be exchanged by counsel and provided to the court on the day of opening statements.



Example of a drawing that illustrates a picking-up-the-tab analogy. This analogy exhibit was prepared by trial consultant Browning & Company, Texas.

10. Argument, as usual, is not allowed by this Court during opening. Explaining a case theory or theme during opening, sometimes with illustrative aids and analogies, is not considered argument. Argument is defined more by tone and demeanor than any other factor. Attorneys may explain case theories but only in a dispassionate, matter-of-fact manner and may not use the opportunity to argue. While drawings may depict a case theory, such as a drawing or photograph of a sinking ship, it may not be augmented with argumentative language (wording) on the screen or explained in a tone that

suggests pleading with the jury. (Examples: A chart might show a sinking ship but may not include argumentative words like, “Defendant guilty of abandoning sinking ship”; the word *guilty* being argumentative. Also, a relationship chart might show contrasting or conflicting evidence or statements by witnesses. But neither printed nor spoken language should be permitted to argue the credibility of any witnesses or urge jurors to accept one conflicting fact over another. That’s for closing.)

- The “say/show” rule applies. If an attorney can say it he or she can usually show it. Some attorneys may not object to opposing counsel saying something but do oppose exhibits which show the same thing because of the so-called power of images. If something can be said, it can usually be shown subject to limitations of rule 403.
- Illustrative aids and lawyer-prepared notebooks will usually be approved for jury use during deliberations. When the technology permits, this Court will also allow jurors to access corrected, real-time witness transcripts to help them review testimony without making undue reliance on their notes or on attorneys’ representations of the testimony during closings.

Conclusion

In early 2003 most states are running significant deficits. Legislatures are slashing budgets. Few states can afford the e-lectern systems their federal brethren are spending millions on.

Which could be a good thing.

States need to increase trial productivity for a minimal investment.

Without spending a nickel, states can adopt rules that encourage digital litigation.

That’s step one.

Step two is to adopt an open-source, laptop centered philosophy for their courtroom presentation systems. A state court would provide the projector and screen and make sure the screen and podium are optimally located.¹⁹ Equipment cost: about \$4,000 per courtroom for a really bare bones setup.²⁰ Attorneys would provide their own laptops. The court should require most lawyers, amidst weeping, wailing and gnashing of teeth, to present documents digitally.

Return on investment: huge. Potentially staggering.

What about e-podiums?

That’s what the Smithsonian is for. Put them next to the Xerox 850 digital typewriter.

¹ Yes, pictures and sounds—including video clips—can even be inserted in text documents and submitted on CD-ROM.

² Arizona is among states at the forefront of digital litigation. Two leading legal software companies are in Arizona: Verdict Systems (Sanction) and inData (Trial Director). The University of Arizona College of Law has a Courtroom of the Future.

³ Electronic podiums, before they hit the courtrooms, hit classrooms. Many not only enabled computer hookup, they were equipped with computers. There’s even debate over whether electronic whiteboard technology has supplanted part or all of the need for controls at a lectern. “Smart lecterns are obsolete,” wrote a Florida law professor in 1998. “You can stand in front of the class, and write on a board while

controlling multimedia presentations by simply touching the board itself.” Note: The Canadian company Smart Technologies, a leading manufacturer of interactive whiteboards, introduced its own “Smart Symposium” last year.

⁴ DOAR’s literature under the headline “The Core” says “at the center of the versatile trial presentation system is DOAR’s Communicator document camera.” A federal user’s guide says essentially the same thing: “ELMO is the brand name of an electronic document camera that is the heart of the Electronic Courtroom Visual Evidence Presentation System...”

⁵ The term “digital” is often applied, incorrectly, to high resolution analog signals. For example, many of the newer, higher resolution document cameras are called *digital* when they’re actually *high-resolution analog*. It may be technically more accurate to replace digital/analog comparisons with paper/paperless or computer-based/television-based signals. Most display devices are analog, the more important issues are their size and resolution.

⁶ Some of the new e-podiums are actually equipment carts that can be moved around the courtroom, even from courtroom to courtroom. Still their bulk discourages setting up the podium next to the screen. A plain podium, even a simple music stand is sufficient to hold a laptop computer.

⁷ MediaTech’s portable courtroom system does take a positive step in the digital document presentation direction. Its clever MediaMate system does have a document camera. But it also has a digital DVD player instead of an analog VCR. And it uses the annotation device—a Boeckeler Pointmaker—to double as the digital/analog conversion device.

⁸ Even an inexpensive laptop now has a 40GB hard drive, enough capacity for thousands of documents and dozens of video clips. Just a few years ago tech savvy attorneys had to use laser disk machines, DVD players or stacked hard drives to hold their digital evidence.

⁹ There is debate as to which computer was the first PC. Some say Altair inventor Ed Roberts coined the term PC in 1975 and that his invention was the first personal computer. Perhaps PARC’s 1973 Alto computer deserves credit because of its visual display in the first, 1973 model and its graphical user interface added in 1975. The 1981 IBM popularized the term PC, but it did not have a GUI. Of course the Alto was part of the inspiration behind Apple’s 1983 Lisa that had a graphical user interface in 1983. And Lisa had a mouse to boot. Alan Kay, who is often credited with helping develop the PC concept, apparently believes the first personal computer was a small computer developed in 1962 called the LINC.

¹⁰ Indeed, the genealogy of the image that appeared on the screen that day in California also traces its roots back to the University of Utah where computerized imagery was pioneered by David Evans and Ivan Sutherland.

¹¹ *When Law Goes Pop: The Vanishing Line Between Law and Pop Culture*

¹² Some countries, such as Germany, don’t use juries, so their display challenges are dramatically reduced.

¹³ One power podium manufacturer, Advanced Courtroom Technologies, believes flat panels are preferred by jurors. “ACT frequently polls Jurors after the conclusion of a trial and as a result of doing so, has discovered that a majority of Jurors typically prefer flat panel monitors over LCD Projectors, screens, and large CRT monitors.”

¹⁴ Deanne C. Siemer is a litigator and author. She co-authored the excellent manual, “PowerPoint for Litigators,” published by the National Institute for Trial Advocacy (NITA).

¹⁵ Use screens in the television screen/computer monitor format of 4X3. Usually screen sizes 4’X6’. 4’X7’ and 8’X6’ work well.

¹⁶ “We find that jurors are much less afraid of technology than many counsel, or even than counsel’s clients. Jurors are accustomed to getting their information from television and computer screens. The fear that a party using technology will be perceived as ‘too slick’ is almost always unfounded. Jurors expect technology to be used as part of modern presentations.” Michael A. Biek, Ph.D., “Tips On Technology”, Delaware State Bar Association, May, 2001 www.dsba.org

¹⁷ At the moment Utah’s either/or trial transcript rule means a small percentage of cases in Utah State courts will be manually recorded instead of videotaped. I’m working on getting that rule changed so that more attorneys have the chance to follow presiding Judge Ronald Nehring’s admonition to use trial video clips in closings.

¹⁸ PowerPoint’s thumbnail printout feature provides a quick, inexpensive way to create jury notebooks.

¹⁹ Even though courts can configure their own systems, bypassing vendors and integrators, I suspect most of them would still benefit from outside technical help. Just as many companies like IBM and Red Hat are making millions with products tied to open-source, free Linux technology, AV companies could develop

new courtroom products that are cheaper and more flexible using plug& play components. They would earn their profits with a value-added model rather than a proprietary model. Nomad Technology's mobile *Presentation Station* is a step in the right direction. Jefferson Audio Video System's cart-mounted *Persuasion* is even closer to the stripped down, Honda Civic approach I recommend. Even the major manufacturers offer mobile or cart versions of their e-podiums. But for the wrong reason. They are so expensive they need to be shared. A rather pessimistic paradigm. Every courtroom needs its own system. Mobility is good for setup, backup and service. Stripped system could also be permanently wired if the court has a few extra bucks.

²⁰ A vendor-supplied, low-end system could cost about \$15-25,000 per courtroom. Most courts would likely save money in the long run by getting something off the shelf instead of cobbling their own systems, unless they have an IT manager like Montana federal court's Vern Larson. Even then Larson used local consultants to help configure his systems. Another caveat: this article dealt primarily with presentation equipment. Most courtrooms also need teleconferencing systems, video recording systems (for video court records and clips for closings), and wireless internet access. Integrating these systems requires specialists.