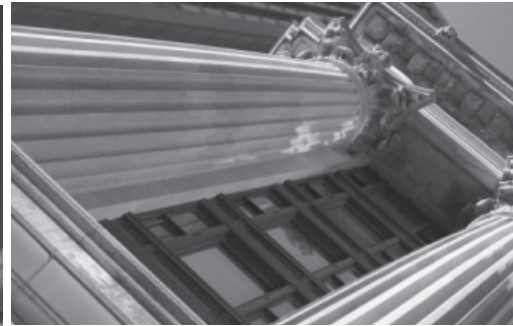




A STRATEGY PAPER FROM: **CENTER FOR DIGITAL GOVERNMENT**

THIS OLD PORTAL

GOOD BONES, GREAT POSSIBILITIES



INTRODUCTION: VIRTUAL RENEWAL

"It's got good bones but the years have caught up with it. There's a lot to work with here, so let's get started." Such is the commentary that begins each episode of the popular long-running public television series "This Old House."¹ Much the same could be said of public sector portals, many of them developed a decade ago at the beginning of the e-government (or government improvement) movement.

The Center for Digital Government has been a keen observer of state and local government portals since their inception in the mid-1990s. With a wink and a nod to the TV series that started the home improvement revolution, and a tip of the hat to the thousands of public servants and their private partners who labored tirelessly on the first generation of e-government services, this white paper takes a fresh look at "This Old Portal." It too has good bones and great possibilities when considering the future of public service delivery.

When Norm Abram, Kevin O'Connor, Tom Silva and the "This Old House" crew show up, they refresh component by component. By the time the foundation has been reinforced and new plumbing, electrical, and window and wall treatments installed, the project emerges as one that respects and reflects the history and the local uniqueness of the original structure, and is thoroughly modern in meeting both the standards and expectations of contemporary families in contemporary communities.

For those same reasons, it is time for a "This Old Portal" renovation. While Norm, Kevin and Tom are concerned with doors, windows, plumbing and electrical, a structural refresh of the government portal also begins at the foundation, followed by a component-by-component renovation:

Governance

- The cornerstone of the foundation, governance is vital in establishing structural strength and defining the parameters within which the structure is built, maintained and sustained. It can be fairly compared to homeowner associations in covenant communities. The good ones are worth much fine gold; the ones that don't work (or may be just indifferent or unable to execute their responsibilities) are perpetual sources of frustration.²

Executive Championship

- The person in view here is the equivalent of the homeowner — the one person who has the vision for what "done" looks like, who holds the contractor and the crafts people to account, rolls up his or her sleeves and lends a hand when there's trouble, and tells the kids to wipe their feet before going inside. It's their house; they have to live in it.

Architecture

- As with homebuilding, this is the blueprint. The architecture is the set of technical drawings used to make the architect's vision and the artist's rendering a reality.

Infrastructure and Capacity

- From the electronic equivalents of floor joists to roof trusses, these are the structural components that ensure the home will be big enough and strong enough to handle everything its occupants demand of it.

Funding

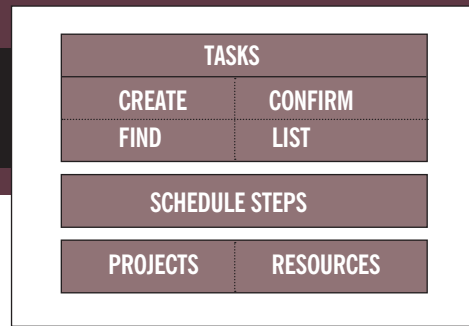
- Matching funding with needs is why there are "starter homes." They help owners build equity, become familiar with homeownership and begin to think about what kind of home they'll need next for their growing family. Along the way, they confront the trade-offs associated with getting into the house, keeping the bills current (or paying operational expenses) and finding a way to set a little aside for continued improvements. There is no single right answer, but any number of combinations of build, buy or lease options allow owners to go it alone or partner up.

Curb Appeal

- Defining a suite of services appropriate to how people live and how businesses operate by setting priorities and selection criteria for what to build, when to build it, and how it should look, act and feel when the construction is completed.

Each of these components to a "This Old Portal" renovation will be discussed in turn (and they among others are digested in the accompanying Portal Punchlist³).

THE “THIS OLD PORTAL” PUNCHLIST



The American construction industry has long relied upon a punchlist — a list of tasks or “to-do” items — that must be completed to satisfy the terms of the contract. As used here, the Portal Punchlist takes a broader view of must do and must have components of a successful online strategy in state and local government.

A PLAN

- Sometimes as conceptual as an artist’s rendering or as detailed as blueprints, a sustainable portal plan rests on the cornerstone of communicating effectively and handling transactions between people and their government. It’s a master e-government plan and details what the government wants to achieve, how it will happen, timelines, and who is responsible for doing what.
- This cornerstone approach is synonymous with what is often called Web 1.0 — a back-to-basics view of online service delivery that provides the foundation for collaboration and social networking (Web 2.0) and the evolution of a worldwide database that strings together formerly discrete strands of information into a thinking [or semantic] web (Web 3.0).

ARCHITECTURE AND INFRASTRUCTURE

- Home builders and portal owners alike still have things to learn about webs from spiders. The arachnids’ webs are structurally strong, elegantly yet economically designed, rapidly recoverable, and built to deliver value time after time.
- Spiders have also figured out how to play to strengths in terms of infrastructure. They have an uncanny ability to locate their webs in high traffic areas while leveraging the work and investment of others — weaving their traps in door frames and spans among posts, walls and ceilings. Portal builders also need to play to such infrastructure strengths.

AN OWNER AND CHAMPION

- Just as homes reflect the tastes, priorities and values of their owners, so too do public sector portals. Portal owners — or, more precisely, champions — are often the deciding and driving factor in the development of stand-out portals that combine function-forward design and a suite of applications that meet the needs and expectations of businesses and residents.
- Portal champions also play a key role in persuading the widest swath of agencies possible to look beyond their organization’s four walls to a wider view of how they fit in a wider ecosystem or community.

A COMMUNITY

- Despite e-commerce-inspired references to storefronts and shopping carts, a portal is less like a strip mall than a community in which formerly separate entities come together to create a good place through which public information and services can be delivered.

- To those ends, the communities of interest that have formed around public portals are self-governing through a basic set of policies or rules that balance agency autonomy with the interdependence that comes with a networked world.
- Central to any such governance structure — often adapted from models that have worked elsewhere — is a mutually agreeable issue escalation and resolution process that lends itself to timely decisions for the good of the order.

CURB APPEAL AND LIVABILITY

- Visitors expect that, on arrival, the path to the front door will be clear, clean and safe. Once inside, switches, faucets and appliances should look, feel and act like those in other houses. So it is with public portals. Commonly used navigation and search functions help visitors find what they are looking for — where and how they expect.
- The user experience — not to mention the underlying economics of the portal — are enhanced by incorporating applications and appliances that have been proven elsewhere.

A FUNDING MODEL THAT IS MORE THAN A DEATH PLEDGE

- The 2007 meltdown of the sub-prime mortgage⁴ market provides, by analogy, a useful caution about ensuring sustainable funding for the portal. Case in point — by 2005, California realized it could no longer afford the fee-for-service maintenance contract it had with the original contractor. The state has since successfully built the portal from the foundation up — and, in so doing, reduced operating costs to levels that can be supported during even tough times.
- Cost models vary widely from jurisdiction to jurisdiction. A decade of e-government experience has resulted in multiple funding hybrids that have been customized to suit local conditions. Such blended models draw from conventional time and materials charges and fixed fees to advertising and the now dominant transaction-based (so-called self-funded) approach that is choice of 20 states.

DIY VS. BUILD OR BUY

- A number of governments have competently taken a do-it-yourself (DIY) approach to building out their portals, soliciting advice from “This Old House” consultants Norm, Kevin and Tom when they run across the unexpected or want to make improvements that are beyond their reach.
- Other governments — including nearly half of all 50 states — have decided that building and operating a portal is not a core competence of government and have partnered with commercial third parties to build, run and help fund the portal.

GOVERNANCE

Governance is the cornerstone of the portal's foundation on which every other component rests. Even a top-notch crew — including a project management office and well-trained and experienced personnel — cannot make up for failures of governance. Many states have solid governance structures for information technology, performance and quality monitoring programs, or other cross-cutting initiatives

Colorado created the Statewide Internet Portal Authority (SIPA)⁵ to oversee the official portal and grow it into a comprehensive and consolidated self-service delivery channel across agency and jurisdictional lines. The SIPA board includes representation from the legislature, the judiciary, local government and the private sector, plus the governor's office and the active participation of cabinet members from the departments of revenue, employment and regulatory affairs. This broadly-based ownership group resolves and reconciles competing needs for modifications and additions before issuing change orders to the crew on the ground.

In terms of governance makeup, Arkansas⁶ and Kansas⁷ have also taken a broad view and included representation from constituencies that tend to be underrepresented in governance models. Kansas and Arkansas have purposefully included private sector representatives from key user groups to ensure that the interests of external users are pursued.

The other key characteristic here is setting priorities — clarifying that government operates in an environment in which resources are always finite and governance is needed to prioritize how resources are used to identify, develop, test, and market the solutions used to expand and enhance the portal. One of the benefits of a solid governance model is that quick, decisive action can be implemented without having to navigate the typical bureaucratic process of state government. If a governance board has the capability to set priorities, then this approach takes advantage of quick implementation without sacrificing government oversight of the project.

Colorado, Arkansas, Kansas and other states have learned by doing that governance is a lot easier to implement with a single-purpose transactional service than with one that relies on a network of service delivery. Yet it is in the context of complex networked service delivery where governance matters most, providing the formalized and institutionalized rules that help keep the foundation level and the walls plumb while matching the interdependent components with the structural capacity needed to operate consistently and sustainably.

While individual tradespersons focus on the intricacies of their craft, governance is the one place where you can see to

the edges of the whole project — see synergies and resolve conflicts among the trades and ensure that the whole is more than just the sum of its parts. So it is with government modernization where — like other sectors — new value in extended capacity relies on getting an enterprise view of data. The ability to share data across organizational lines is a key factor in solving modern societal crises whether they are pandemics, terrorist attacks or natural disasters. Yet we do not have to wait for new social forms of networked organizations to break out of traditional bureaucratic structures to begin sharing data today. Creative organizations can rely upon standard “tools of the trade” that are ingrained into government organizations today, instead of waiting for the next new thing (or technology) to make it all possible.

The tools of governance — such as contracts, memoranda of understanding, service-level agreements, statutes, executive orders, an issue prioritization, escalation and resolution process, including rules and policies for quick decisions on project approvals and oversight — bring proven old-school disciplines to the important task of formalizing the work that formerly discrete organizations or entities do together while bolstering an effective governance structure.

WORKING WITH CONTRACTS AND VENDORS

Much construction industry education from master builder associations and other such groups still echoes the caution “*Caveat emptor*” — Latin for “Let the buyer beware” — which, prior to statutory law, was the property law doctrine that controlled the sale of real property after the closing date.

The industry's contemporary advice to home buyers adapts well to prospective portal owners as they seek out a contractor. The builder is as important as the style of portal — contractors should have a strong record doing similar work and stand behind their workmanship through warranties that subscribe to codes of ethics. It is also useful to see their previous work and ask some important questions of other home ... err, portal ... owners about their contractors:

- *Are you happy with your home?* The answer should tell you about the contractor's track record, experience, specializations.
- *Did the builder do what was promised in a timely manner?* The answer should tell you about the contractor's ability to deliver projects on time, on budget and within scope.
- *Would you buy another home from this builder?* There is nothing like a recommendation from a peer as to the contractor's ability to succeed in an environment like your own. The answer here should also provide insight as to the underlying relationship about whether an existing customer would go down the road with the same contractor.

There are lessons here for those states that have taken a DIY — do-it-yourself — approach to online service delivery. Washington and Michigan have been among the most

independent in the build-out of their portals, but have relied heavily on a number of trusted general contractors, subcontractors and tradespersons when it comes to high-value renovations and additions.

Many states have recognized that e-government management is not a portal core competency and have chosen to outsource the work — in almost all cases, to private sector providers with a proven track record in this specialty. Once the vendor is selected, carefully constructed contracts are essential to establishing the agreements that governments have with IT vendors. First, contracts should closely mirror the original scope of work found in bids and proposals. Requesting proposals for one suite of services and expecting (or demanding) a very different set once the contract is written introduces relationship risks before the relationship even begins. Moreover, major changes can affect the content of cost proposals which, if significantly revised, can lead to numerous procurement delays and problems, including time-consuming and costly appeals — sometimes even ending up in court.

Chief among potential legal exposures for government renovations is ill-defined ownership of intellectual property (IP), namely software. A clear explanation and common understanding of who owns what and who has rights of use (during and after the contract period) are absolutely critical to IT contracting in government. Software is copyrighted as a work, yet most software is a hybrid of earlier works and not built from scratch. Either way, each government entity must assure that it has the proper IP rights and training to operate the government portal if a third-party vendor is terminated or not renewed.

Contracts must account for the uneven origins of intellectual property used in the “This Old Portal” renovations so the portal owner is held harmless for the materials used in its restoration. As most contracting professionals will attest, relying on a work-for-hire alone simply will not do. For their part, states may not need or want to actually own the software rights — preferring instead to license the software from third parties in perpetuity, whether through commercial off-the-shelf approaches, such as office applications, code sharing or re-use pacts with other jurisdictions, or even the open source⁹ community.

The complexity and dynamic nature of intellectual property, and the legal environment that surrounds it, requires continual vigilance by those who use it and contract for it in bulk — and that includes government. A growing number of jurisdictions have hired or contracted specialists to provide guidance on intellectual property issues.

WORKING ACROSS AGENCY OR JURISDICTIONAL LINES

Many states allow organizations to enter into a memorandum of understanding (MOU) with various government

entities, including multiple jurisdictions, branches of government and even private and civic (nonprofit) organizations. These memoranda, if properly constructed, will clearly outline the mutual roles and responsibilities of cooperating agencies and organizations. A memorandum of understanding commonly includes:

- designation of the lead agency;
- description of the contribution of resources from partner organizations such as staffing, office space and funds; and
- responsibilities of the partners to the project.

One note of caution is required here. When working across branches of government or state and local government, an extended period of time may elapse between the initiation of a memorandum and its signed execution. Within one multi-agency project in Utah the memoranda took longer than the development of the application. Multiple layers of review, including legal, required multiple drafts before the agreement was finalized.⁹ That said, if the governance process and procedures for review and approvals of MOUs are well documented and executed, then delays can be avoided and the overall process will be more streamlined than if each agency or jurisdiction follows standard procurement rules for RFPs.

WORKING WITHIN THE LEGAL FRAMEWORK

Statutes, rules, executive orders and policies provide legitimacy to governance processes and other key components of government modernization including but not limited to architecture and executive championship. Most states have boards that have been created to oversee their e-government programs or have been adapted for that purpose. As discussed above, boards can be established either through legislation, executive order or through a contract with a third party responsible for services.

When transactional service implementations were not getting off the ground in Utah in 1998 the chief information officer (CIO) initiated a campaign with the legislature to mandate electronic service delivery requiring certain services to be online by a specific target date. This resulted in the Digital State Act¹⁰, which gave state agencies the extra push to begin implementing e-government initiatives. Michigan and Indiana, for example, continue to rely on executive orders from previous administrations to promote electronic government. Both are considered among the top digital states in the nation and frequently win awards for their portals.¹¹ One specific legacy of Michigan’s executive order is a vast store of portable document format (PDF) files resulting in 65 million citizens’ downloads of high-demand government forms.^{12, 13}

EXECUTIVE CHAMPIONSHIP

It is a rare talent to be able to look at raw land in the country or a blighted lot in the city and see the possibility of what “done” could look like. It is what sets visionary home owners apart from those who are content to buy tract homes. It is also an ability that Americans value in their elected officials.

A decade ago, when e-government was in infancy, then-North Carolina Gov. James Hunt Jr. declared that it was time to “dot-com” government, signaling the start of what would become (and remains) the state’s “@yourservice” portal. At the opposite corner of the country, then-Washington state Gov. Gary Locke returned from a meeting with Bill Gates during which he was told “government must go digital” with a challenge to the bureaucracy in the state capitol — “If they can do it in Redmond, we can do it in Olympia.” And with that, the campaign for digital government — centered around the Access Washington portal (<http://access.wa.gov>) was born.

And so it went across the country. The tenure of Gov. Angus King and Secretary of State Dan Gwadosky is remembered for using the portal and its attendant services to increase the effectiveness and efficiency of government services in Maine. Mark Warner (Virginia), Frank O’Bannon (Indiana), Mike Leavitt (Utah) and Mike Huckabee (Arkansas) all saw and seized upon the potential for government modernization that came with the commodity Internet and staked their claims with their respective state’s portals. In that tradition, West Virginia first lady Gayle Manchin is championing the development of a robust state portal because of its ties to education and economic development.

In each case, these executive champions are able to marshal support (and resources, in some cases) from key state executives and legislators (and the public sector IT community that works for them) in changing the way the public’s business gets done.

They bring with them the ability to navigate the complex waters of government — the hallmark of an effective champion.

Champions also bring with them the vision, focus, creativity and desire to accomplish great things in public service. How does a champion differ from an executive lead or lead agency assigned to be accountable? The difference is perhaps best illustrated by comparing the stories of two cross-agency application development projects in the same state — Utah — with very different results.

The first one, known as OneStop Business Registration (OSBR) — created in 2002 and still being expanded and enhanced today — was a highly successful cross-agency and cross-jurisdictional government services one-stop shop

that included most federal, state, and locally-mandated steps necessary for a new business to get started. This was accomplished through a single application. A new business could complete the necessary forms and information online in less than one hour.¹⁴

The second project was called Master Licensing. It was also an enterprise-wide project involving multiple agencies whose purpose was to offer “...end users and government entities a single permitting application starting point (portal)... government will increase user satisfaction, more effectively protect the public, and create cost-saving efficiencies.¹⁵” Both cross-agency projects had support from the project executive and the governor of the state. Yet one succeeded and the other has struggled.

A comprehensive treatment of these cases would reveal multiple success and failure points, but for the purpose of this discussion, the key differentiator was the consistent alignment or lack thereof when executive champions were needed to move the project forward through even the most intransigent bureaucracies. With OneStop Business Registration (OSBR), the governor, CIO, department head, project executive (who reported to the department head) and project team leaders were all eager to see the project succeed and therefore committed to that goal. Capable champions at all layers of the organization actively collaborated to achieve the project vision. In contrast, the licensing project seemed to have consistent support down to the project executive level, but when one of the co-project executives moved to another position the remaining project executive and some team leaders proved to be less than enthusiastic about the project.

The alignment chain was broken; the project stalled and was eventually abandoned. Integral to OSBR but missing from Master Licensing were executive champions who worked to keep people, processes, resources and goals aligned.¹⁶

WORKING WITH THE CIO ACROSS THE CABINET TABLE

In addition to nuts and bolts infrastructure issues such as “up-time” or enterprise security, the difference between an adequate IT organization and a superior one rests in part in the CIO’s effectiveness in envisioning what’s next.

The role of the chief information officer in “This Old Portal” projects is analogous to that of an engineer. The CIO understands the vision and needs of the owner or champion and how the architects and designers have translated them into detailed design documents. It falls to the CIO to ask the tough questions about whether the architect’s plans and the designer’s models will deliver what the owner expects. The CIO must also be aware of the infrastructure and attendant capacity that is in the walls and under the floors while ensuring that it will all hook up with the centrally-provided utilities and not be an island unto itself.

WORKING UNDER A CHARTER

The rise of covenant communities in recent years testifies to the advantages of codifying a common understanding of the ground rules of living together in community — and making sure that all the structures look and feel like they belong together. What covenants have done for housing communities, charters are doing for communities of interest that have grown up around the portal and online self-service.

Beyond what was mentioned earlier on governance, the use of a charter to codify the executive support in writing is also very important. Charters are valuable because they go beyond informal oral statements of project support. They are in essence a “charge” or a directive to carry out the project. Charters typically involve the appointment of a project executive to lead the charge or act as foreman in the parlance of the construction industry. Charters may also contain a vision; membership of agency representatives on steering and technical teams; budget; project scope and deliverables; performance measures and metrics; and even timelines.¹⁷ Finally, charters have proven useful as a governance tool — giving champions the necessary framework and support to breathe life into the project and realize a shared dream.

ARCHITECTURE & INFRASTRUCTURE

Speaking of the dreams of champions, architectures provide a blueprint for building and renovating dream homes (or, more properly in the government context, dream portals) — from what things are today to what they will hopefully become tomorrow.

To those ends, the information technology industry has developed what is commonly referred to as service-oriented architecture (SOA). As the name suggests, the architecture is built on or around Web services.¹⁸ Informally, the name also describes a transition from simply providing static information online to actual information and transaction services that are dynamic, interactive and real-time.¹⁹

Harkening back to a naming standard in the software industry of numbering releases, several observers have used version numbers to describe the architecture, infrastructure and functionality of the evolving Web. To be clear, the numbering scheme does not imply a linear progression — it is worth remembering that the Web is lurching from innovation to innovation and labeling should not disguise that convulsive progression.

Tim Berners-Lee avoided the numbering scheme in talking about the Internet's next architecture as "the semantic Web," which, as the name suggests, is literally looking for meaning in the relationships among formerly discrete strands of Web data. Publisher Tim O'Reilly's "Web 2.0," originally conceived as an interactive marketer's dream, has been used to describe the confluence of social networking and collaboration, user-generated content and folksonomies, the rise of the mobile Internet and all types of nomadic networked devices.

John Markoff of the *New York Times* coined the phrase "Web 3.0" to describe a third generation that puts a premium on using natural language, data mining and machine learning in search of an intelligent Web. EarthWeb co-founder Nova Spivack amplified Markoff's Web 3.0, harmonizing it with the best bits from Berners-Lee's and O'Reilly's visions and adding what he calls the "World Wide Database."

A trio of public servants each brings a slightly different perspective to making sense of these concepts. Utah's Dave Fletcher, one of the longest-serving and steadiest hands in the e-government movement, is firmly in the corner of the nascent semantic Web. He first discussed its emergence in 2003.²⁰ The growth of the semantic Web holds the promise of addressing one of the most intractable problems of government by not only unearthing formerly disparate data from all over a federated environment, but making meaningful connections among them.

John Miri of the Texas Department of Information Resources thinks that for most public leaders, the most important thing to understand about Web 2.0 is the "2," as in two-way communication or conversation. Virginia Secretary of Technology Aneesh Chopra sees immediate application of Web 2.0 in creating online communities around issues that matter to their members and extend a public mission. Consider such a community for a new generation of veterans in which they "answer each other's questions essentially eliminating the need for an 'expert' advisor to weigh in. They have the ability to self-police and find who has the best comments and how reliable are they. This notion of citizen self help is a powerful one."²¹

That leaves Web 1.0 as a place to discuss a back-to-basics approach to making the Web work from the ground up and revisit key success factors that may also be lessons that have not been universally learned.

The great value of a good architecture is the ability to map out where you are (as in the current architecture), where you are going (the target architecture) and what it takes to get there.

Many architecture efforts promoted by private sector consultants in the late 1990s and early 2000s were valiant attempts to corral unbridled infrastructure complexity and bring some order, consistency and simplification to the IT environment. Architectures were often compromised in the public sector because, often owing to political considerations, government never met a standard it didn't like.

Of course, having one of everything slowly created architectures that, like the foundations of homes built too high on the hillside, came sliding down around the occupant (the user). To shore up the shifting hillsides, the public sector IT community came up with any number of resourceful stop-gaps, plugging the holes and figuring out the clever but temporary fixes and workarounds. Of course, all this added to service interruptions, downtimes and dissatisfaction among users. What was tolerated when there were three applications on the government Web site became intolerable when there were 300. On the portal side, some architects went about recommending vendor solutions. Unfortunately, these products being early in their maturity often offered more headaches than help to users and Web developers. The marketplace and IT office shelves became littered with "portal-in-a-box" solutions that were either never deployed or were put on a server and never used by customer agencies.

That didn't stop customer agencies from wholeheartedly embracing the Web. Lacking appropriate tools and a framework for automating the workload of supporting online service delivery, many public portal operators came to realize that launching a portal was not unlike having a child. Giving birth was both exhilarating and exhausting, but the real work started with the lifetime of care and feeding that followed.

If agencies could not keep up, the static content quickly became outdated and stale. Moreover, the public noticed the same way you notice a kid who hasn't had a bath or a lawn that hasn't been mowed.

Nowhere is attention and maintenance more noticeable on a public sector portal than during legislative session when a nonstop stream of bills and amendments can overwhelm the portal. If the bill tracking Web site can't keep up, people notice, including activists, lobbyists, the general public and legislators themselves. The need to keep Web sites fresh pushed developers toward a more dynamic approach to Web site design and deployment. Content management solutions utilizing extensible markup language (XML), Web services, Really Simple Syndication (RSS) and other dynamic portal approaches began getting some traction as states begin moving toward the next generation portals.

The growing volumes of data behind the portal are not unlike the boxes of stuff that crowd cars out of garages. Regardless of the cost, the stuff is only valuable if you can find it. A number of states, including Virginia and Nebraska, have indicated a transition from a dated view of the portal where navigation was at the center to the new model where search is at the center.²² According to Google's J.L. Needham, at least "70 percent of visitors to government Web sites get there by using commercial search engines."²³ In light of this fact, California recently discussed the need to "optimize" and appropriately "metatag" so the state can work effectively with commercial search services. California recently joined with Google and four other state partners, Arizona, Utah, Michigan and Virginia²⁴ to make it easier to find public data online. Using standards, consulting and software, states are learning to better tune their sites to major search engines.

Many a homeowner association meeting has gone well into the night with prolonged discussions of the acceptable presentation of homes in terms of house color, fence heights and the sizes of garden gnomes. Consistency of presentation matters, within reason, because it goes to livability of the community and the underlying property values. Massachusetts²⁵ (www.mass.gov) and others have been working for years to consolidate the proliferation of individual Web sites into fewer, better sites focused on the delivery of public services²⁶, while Michigan, Utah, Maine and others are encouraging and enforcing (as necessary) a common look and feel.²⁷ Indiana has gone the farthest to create a common design for its Web portal and agency Web sites²⁸ by developing a standard set of templates and making an enterprise content management system available to all agencies.

Homeowners' meetings rarely get bogged down in conversations about utilities. While some people still dig their own wells and some make deliberate choices to live off the grid; electricity, cable, sewer and water are all shared services.

Similarly, an early tendency was for individual agencies to build or buy their own payment engines for each application. Such was the case in Utah until a portal refresh in 2002 during which the state moved to a shared services approach using a self-contained payment portal that was architected as a "plug-and-play" Web service.²⁹ Idaho³⁰, Indiana, Hawaii and Arkansas have also implemented a common payment platform across the enterprise.

FUNDING & CONTRACTING MODELS

The housing market meltdown in mid-2007 provides a cautionary analogy to thinking seriously about the sustainability of public sector portals. The state of California was among those that bought more portal than it could afford in the late 1990s — it took the state most of the next decade to get its online presence on a firmer footing, financially and technologically.

Clearly, governments need to identify a sustainable funding source to support the long-term growth of the portal. A decade after e-government began, the landscape is littered with government portals that ended up being build-it-once solutions that lack adequate resources for maintenance or upgrades. Using our now-familiar analogy, a sustainable funding stream allows homeowners to remodel and care for the structure over time. Those who do not have consistent funding end up looking like the houses owned by families caught in the sub-market crunch — caught without enough money to stay or go, or even afford a fresh coat of paint.

Funding portals has been a sticking point from the advent of government Web sites. Agencies and legislative committees have frequently not seen fit to dedicate a specific pot of money to updating and maintaining either agency or state portals.

Regardless of the type of model, sufficient resources must be available to support both operations and continued innovation. One might reference the private sector model of diversification or consider the metaphor of a bucket fed by many streams.

TIME AND MATERIALS

Time and materials (T&M) contracts hold the advantage of allowing flexibility when project scope is somewhat indeterminate. Still its strength is also its greatest weakness. Projects that are not tightly scoped can yield projects that are continually in development yet never seem to be deployed — sometimes even not until the underlying technology is obsolete. Conversely, an organization can have a full accounting of the costs of each activity that can easily be scrutinized from an accountability standpoint.

FIXED FEE

Another model is fixed fee. One advantage of this model is that you know exactly what you're paying for. Carefully scoped requirements are important here. Otherwise the vendor and the partner will spend extensive amounts of time negotiating over what is "in scope" or "out-of-scope."

TRANSACTION-BASED FUNDING OR SELF-FUNDED

Another form of funding is a transaction-based model, in which the partner receives a moderate access fee for specific transactions that provide enhanced access to in-demand information and services. The value of this model is that up-front private sector investment in applications development, infrastructure and the portal is made without a direct appropriation from the legislature. The transaction-based approach also provides a sustainable funding source for the ongoing development and enhancement of portal services, which has been identified previously as a key component of a successful e-government program.

It is worth noting that the vast majority of funding for transaction-based models comes from the business community, which is more highly regulated than the citizenry and naturally recognizes a greater benefit by having access to more efficient interactions with government for high-volume transactions. As a result, more than 95 percent of services and information offered through a self-funded portal are available at no charge to end users.

ENTERPRISE IT FUND

A final funding mechanism that needs mentioning is the information technology enterprise innovation fund. This type of fund is particularly useful where multiple agencies must collaborate to create a cross-boundary (different agencies in a government organization or one crossing branches or levels of government) application or service. Some transaction-based funding models also allow for subsidizing these cross-boundary applications since they may permit expending some of "the profit" or excess revenues collected from a transaction on another application or service.

The bottom line with all these funding models is that the best answer most often results from having the flexibility of funding offered by multiple streams. In the context of establishing a sustainable and consistent funding regime, this can offset risks such as recessions, changing political priorities, individual project deployment or operational problems, all of which may affect the reliability of individual funding streams.³¹

CURB APPEAL

Our attention now shifts to defining a suite of services appropriate to how people live and how businesses operate by setting priorities and selection criteria for what to build and when to build it.

A) THE THREE Ss: SUSTAINABLE, SCALABLE AND STICKY

Homes are built and renovated to be practical and comfortable — or, simply put, lived in. Portals are built and renovated to be utilitarian and welcoming — providing a simple way into the public square without getting distracted or lost in bureaucratic complexity. In their design or redesign, these criteria are helpful in prioritizing the suite of services and features:

- **Large Transaction Volume Potential**

This is roughly equivalent to the private sector phenomena of the “widget” as a “must-have” item. In the government-to-business category, comparable services would be taxation, permitting, licensing, and compliance suites. In the government-to-citizen space, key applications include: motor

vehicle renewal (tags); driver’s license renewal; hunting and fishing licenses; and mass alerts of all kinds from Amber alerts to traffic, weather and government news.

- **An Avid Constituency**

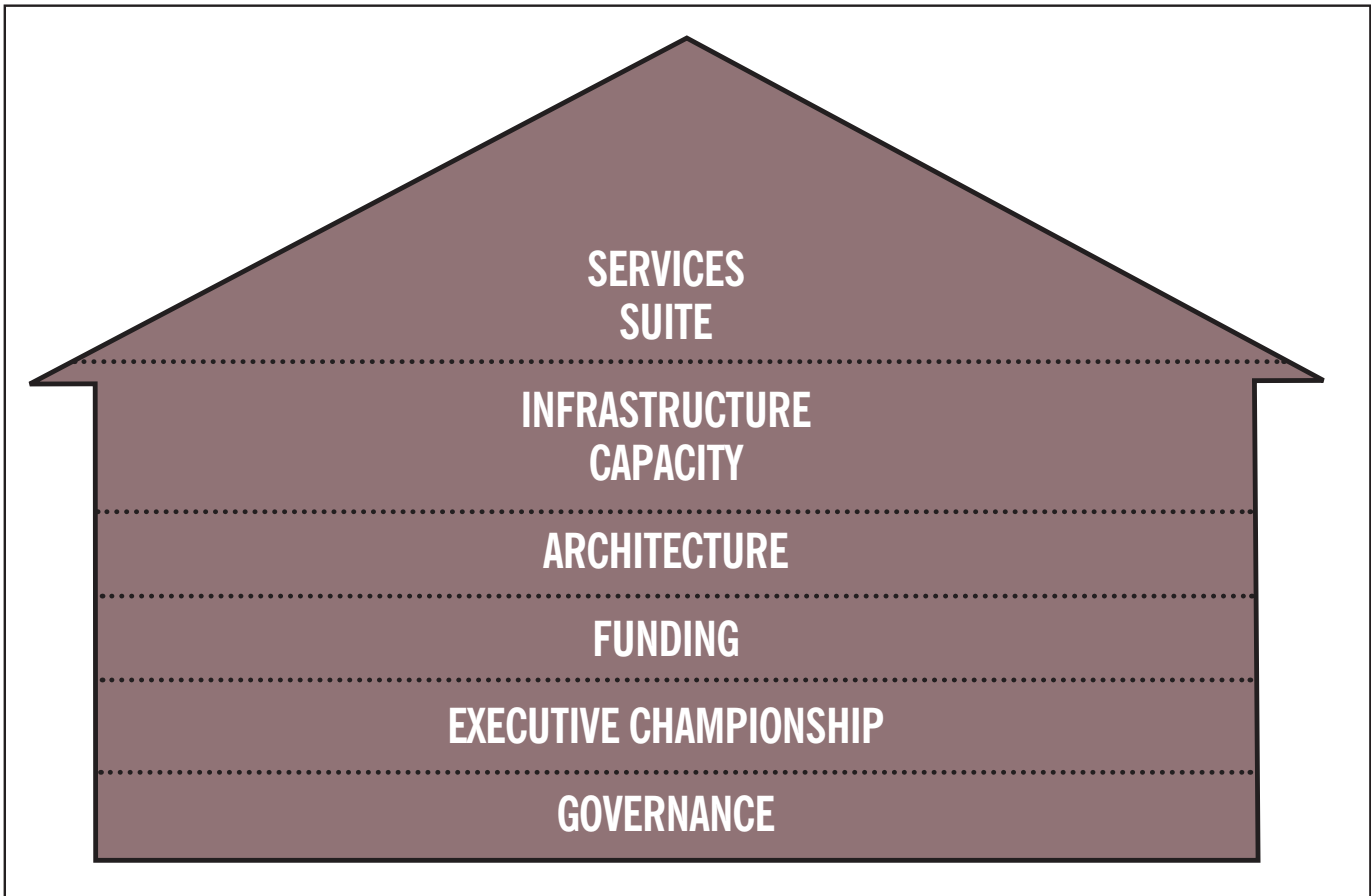
Example of these might include innovative services that may not currently exist but involve current government hot button issues like global warming.³² This is like the power of the executive champion “squared.”

- **Increased Transparency**

Any service or project that produces information that has been unavailable or difficult to find in the past and leads to knowledge about what government is doing and how it goes about its business, including key decisions being made and why they are made.

- **Makes Transformation Possible**

Any service that fundamentally changes the relationship between government and the user.³³ It often includes the introduction of a brand new service that has not existed before in paper form — such as the Hawaii Compliance Express³⁴ service that tracks compliance requirements for state vendors or the Utah State Construction Registry, the latter of which was designed to reduce liability and



risk for property owners in commercial and residential construction.³⁵

- **Organizational Readiness and Commitment**

There must be sufficient organizational resources to allow for both development and maintenance of this service. One champion is not enough.

NON-GOVERNMENTAL PORTALS THAT CONFRONT COMPLEXITY

As the Center contended in *Simple.gov: Its Time to Change the Story*, governments do not have to do everything by themselves when doing the public's business. That argument extends to the Web where government can contribute to useful resources that are built by third parties.

Exhibit One: The Climate Registry, designed to confront a major issue of our time — climate change — “is a multi-state and tribe collaboration aimed at developing and managing a common greenhouse gas emissions reporting system with high integrity that is capable of supporting various greenhouse gas emission reporting and reduction policies for its member states and tribes and reporting entities. It will provide an accurate, complete, consistent, transparent and verified set of greenhouse gas emissions data from reporting entities, supported by a robust accounting and verification infrastructure.”³⁶ Currently 31 states representing 70 percent of the nation's population and involving governors of both major political parties have joined together to fight against the global warming threat.³⁷

Exhibit Two: The “Encyclopedia of Life” Project, an extremely ambitious \$50 million cross-boundary scientific and educational initiative involving universities, museums and foundations. Plans are to catalog every species of plant and animal with every species having its own Web page. Photos, names, lay-person descriptions of the organism, maps of the species range and how it relates to other species in the tree of life will be included. Research that now takes months could be completed in minutes. Ten years in the making, the project hopes, according to its founders, “...to transform the science of biology, and inspire a new generation of scientists, by aggregating all known data about every living species...increase our collective understanding of life on Earth, and safeguard the richest possible spectrum of biodiversity.”³⁸ The Web site content will be completely database-driven — another key feature of a transformational project.

B) ATTRIBUTES OF TRANSFORMATION

The restoration of classic homes on “This Old House” is based on a set of principles that respect the integrity of the original architecture and the nature of the community while preparing them for another lifetime of service. The same principles apply for “This Old Portal” renovations, as seen specifically in these attributes:

- **Citizen-centric** — Services are reorganized not from an individual agency perspective but from a citizen, business or functional perspective. Oklahoma, Tennessee and South Carolina for example offers a variety of customer-centric services including RSS feeds, podcasts, blogs, video streaming and wireless content to cell phones.
- **Community-wide** — Look beyond the individual agency to encompass different branches, levels, jurisdictions and geographies, including horizontal and vertical views and includes public, private and nonprofit service delivery partners.
- **Collaborative** — Work together across organizational boundaries to accomplish a common end can help set the transformation engine in motion.
- **Trustworthy** — Develop a shared commitment among people to work together for their respective agencies' individual missions while meeting the goals of the larger whole and are held accountable for both.³⁹
- **Networked** — (a) Technically: Acting like computer networks really do eliminate time and distance from transactions and (b) Socially: Collaborating at a distance around areas of common interest and concern.
- **Paid** — Sustainable funding that encourages enterprise-wide or cross-boundary collaboration and escapes old ties to program type alone.
- **Changed** — Foster a culture that embraces, rewards and sustains commitments among its participants to implement change for the better.
- **Innovative** — Embrace, reward and sustain commitments to implement creative ideas and projects.
- **Customer Service-Oriented** — Be the best government a citizen has ever had.⁴⁰
- **Streamlined** — Redesign and rethink processes to eliminate needless steps.
- **Transparent** — Share more or new information about the government, its decisions and processes while making government information secure with emphasis on protecting individual (citizen) privacy.

C) MAKE IT RELEVANT

"This Old House" respects the history of the houses it restores but does not set out to restore them to their original state. The philosophy is to renovate and renew such that the renewed homes are relevant to a contemporary family in a contemporary community. The architects and craftspeople approach each project on its own merits — and modernize each component in ways that are best suited to the house.

If they were involved in e-government, they would reasonably be expected to begin with questions along these lines: "What types of projects can be characterized as transformational as opposed to simply automating processes?" and "How does government create modernization projects and strategies that, in sufficient critical mass, can actually spark full-scale government transformation?" Your "This Old Portal" renovation can help keep governmental institutions relevant by changing the way the public's business gets done such that they act more like the people they serve. This can be done by:

- eliminating a channel while improving the quality of the new channel (more signal, less noise);
- deploying an online service delivery channel for each new service channel created;
- providing an online-only service while eliminating digital divide issues and access problems;
- building an application that creates a one-stop shop for citizens or businesses to use through a single interface (Examples include taxation one-stop services in Rhode Island⁴¹ and Idaho; and the master business gateways in Massachusetts and Ohio⁴²);
- creating a cross-boundary service or specialty content that requires inter- or intra-agency negotiation, collaboration and networking to achieve shared goals, for example, Nebraska's JUSTICE system, which makes 7.1 million state court case records accessible with a single mouse click;
- building a service that makes new information available that has never been available before, available to a new set of users, or being used in a new way, for example, Utah Construction Registry referenced earlier; and
- creating a space for ordinary citizens to participate in the democratic process while allowing for self-organization and direct input into policymaking.

The extensive re-editing of Wikipedia entries by public employees, the staking of claims by fire departments and other public entities on Wikimapia, and the migration of interactive Web 2.0 methods now common to political campaigns all point to a new level of value in using networked technologies to do the public's business.

CONCLUSION: RENOVATE, RESTORE, RENEW

All the advanced Web sites — and most important in the public sector, the service delivery that they make possible — rely on a solid foundation on which ever greater volumes of traffic and ever higher expectations are assigned to the online channel.

Like the television series that inspired the notion, “This Old Portal” renovations are: (a) respectful of history and traditions; (b) intended to keep public institutions relevant in a changing world; and, (c) aimed at function-forward design to prepare portals for the next generation of public service delivery.

By expanding the view of the enterprise, private partners and governments will be better able to work together to innovate and modernize government “inside out” and “outside in.”

The purpose in the nascent campaign to renovate, restore, and renew public sector portals is not the gentrification of e-government but extending the serviceable lives of portals and finish what was started a decade ago. F. Scott Fitzgerald famously claimed, “There are no second acts in American lives.” The producers of “This Old House” have been proving him wrong since 1979 where classic American homes are concerned. It is time for us to do likewise for an American original — the portal.

ENDNOTES

- ¹ The program is produced by This Old House Ventures, Inc., an affiliate of Time4 Media®, which is a subsidiary of Time Inc., which is a wholly-owned subsidiary of Time Warner Inc.
- ² The IT Governance Institute defines governance as the “leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives.” (See The IT Governance Institute, *Board Briefing on IT Governance*, 2003.) http://www.isaca.org/Content/ContentGroups/ITGI3/Resources1/Board_Briefing_on_IT_Governance/26904_Board_Briefing_final.pdf
- ³ Punchlist is generally a list of tasks, or “to-do” items. In the U.S. construction industry, a “punchlist” is the name of a contract document used in architecture and the building trades to organize the completion of a construction project. (See Wikipedia http://en.wikipedia.org/wiki/Punch_list)
- ⁴ The derivation of mortgage is the French word for “dead pledge.”
- ⁵ See the SIPA Web site at <http://www.colorado.com/sipa>
- ⁶ http://www.arkansas.gov/ina_board.php
- ⁷ http://www.kansas.gov/board/board_directors.html
- ⁸ Open source software is licensed for use under a variety of approaches where code can be used by anyone if they comply with the conditions of the license. There are multiple versions of open source licensing, GPL being one of the most common, each with its twists — some of which have proven problematic. (The Free Software Foundation Web site houses the most recent updates of open source GNU General Public Licenses (GPL) <http://www.fsf.org/licensing/licenses/gpl.html>. See also the Creative Commons Project <http://creativecommons.org/>.) Once again understanding the value and risks of this form of license is important to IT projects that wish to pursue this direction. Some excellent resource material has been produced by the state of Massachusetts as part of their exploration of open source in government.
- ⁹ One author of this paper served on the Executive Steering Team for Utah’s OneStop Business Registration (OSBR). The example was from his recollections as a direct participant in the project.
- ¹⁰ Utah’s Digital State Act was one of the earliest legislatively mandated e-government initiatives that kick started its growing prominence in the digital government arena. One of the authors, Al Sherwood, provided pre-draft language to the CIO and legislature mandating specific online services to be in place by 2002. <http://www.le.state.ut.us/~1999/bills/sbillenr/SB0188.htm>
- ¹¹ 2006 Best of the Web (State Web site), Michigan Number One, Center for Digital Government Web site http://www.centerdigitalgov.com/surveys.php?tid=2&survey=cdg_bow&loc=2006
- ¹² Center for Digital Government, op. cit., p. 4
- ¹³ Michigan Department of Information Technology, “External Stakeholders,” Feb. 3, 2006. http://www.michigan.gov/documents/AppendixD_149545_7.pdf
- ¹⁴ OneStop Business Registration (OSBR), <https://secure.utah.gov/osbr-user/user/welcome.html>
- ¹⁵ <http://path.utah.gov/enterpriseprojects/EnterprisePermittingCharter.doc>
- ¹⁶ Experiences of author with two enterprise cross-boundary projects in Utah from 2002 to 2004.
- ¹⁷ One example of an enterprise project charter <http://path.utah.gov/enterpriseprojects/OneStopBusRegisCharter7.doc>
- ¹⁸ Web services are open standards-based (XML, SOAP) Web applications that interact with other Web applications for the purpose of exchanging data, originally on proprietary corporate networks and now on the commodity Internet.
- ¹⁹ For further treatment of the topic of XML, Web services and service-oriented architecture, see: Paul W. Taylor, Ph.D. and Al Sherwood, *Service-Oriented Architecture: Making Collaborative Government Work*, Center for Digital Government, 2006.
- ²⁰ David Fletcher’s *Government and Technology Weblog: news & perspectives from a long-time egov advocate*. <http://radio.weblogs.com/01110120/categories/webDevelopment/2003/10/07.html#a940>
- ²¹ Paul W. Taylor, Ph.D., “Semantic Differences,” Public CIO, June 2007.
- ²² Center for Digital Government, op. cit., p. 3
- ²³ Dibya Sarkar, “Google Nudges States to Open Up,” *The Associated Press and USA Today*, May 30, 2007. http://www.usatoday.com/tech/news/2007-04-30-google-records_N.htm
- ²⁴ Barbara Quint, “Google Burrows into State Government Data,” *Information Today, Inc.*, May 7, 2007. <http://newsbreaks.infotoday.com/nbReader.asp?ArticleId=36142>
- ²⁵ Paul W. Taylor, Ph.D., “Eclipsing Portals,” *Government Technology*, June 1, 2007. (See article at <http://www.govtech.com/gt/123620>)
- ²⁶ Center for Digital Government, op. cit.
- ²⁷ <http://www.michigan.gov>
- ²⁸ See <http://in.gov/2150.htm> for more info about the standardization program Gov. Daniels has championed.
- ²⁹ One example of the Utah’s enterprise Web services payment portal <https://secure.utah.gov/deqpay/action/index>
- ³⁰ For more info on Idaho’s solution, visit <http://www.state.id.us/payport/>.
- ³¹ Todd Sander and Paul W. Taylor, Ph.D., *Engage: Creating e-Government that Supports Commerce, Collaboration, Community and Commonwealth*, Center for Digital Government, 2007. <http://www.centerdigitalgov.com/story.php?id=103803>
- ³² The Climate Registry Web site, <http://www.theclimateregistry.org/>
- ³³ Todd Sander, op. cit., p. 13.
- ³⁴ See <http://vendors.hawaii.gov/hce/splash/welcome.html>
- ³⁵ State Construction Registry Web site, <http://www.utah.gov/cnr/index.html>
- ³⁶ Paul Jen-Hwa Hu, Dai Cui, Alan Sherwood, “Examining Cross-Agency Collaborations in E-Government Initiatives,” IEEE Computer Society, Proceedings of the 39th Hawaii International Conference on System Sciences, January 2006.
- ³⁷ An adaptation from the NIC vision of “being the best partner that government has ever worked with...” http://www.nicusa.com/pdf/NIC_INV_MAY2007-Annual.pdf
- ³⁸ See <https://www.ri.gov/taxation/business/list.php>.
- ³⁹ The Climate Registry Web site, op. cit.
- ⁴⁰ Judy Fahys, “Utah Joins Green Machine,” *The Salt Lake Tribune*, May 9, 2007.
- ⁴¹ The Encyclopedia of Life Web site, <http://www.eol.org/home.html>
- ⁴² Center for Digital Government, op. cit., p.4

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