

The State of the State's Information Technology – 2005
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Once again, my good friends, we gather to review where we have been, where we are, and where we may be going. It's time for the State of the State's IT. This is that annual, at times painful, ritual where we take the measure of ourselves. We put ourselves on the couch and reflect upon all of our shortcomings. We explore our deep-seated, Freudian angst about the Departments of Finance, General Services and, now, Technology Services.

Now before I regress into a fetal position, let me come back to the task at hand. I'm pleased to report that the State of the State's IT is strong. We have turned the corner, shaken off the fears of the increasingly distant past, and are moving forward now with renewed confidence and competence.

Let me give just a few examples.

The State has at times had difficulty in procuring information technology systems and services. But now, with the support and leadership of the Department of General Services, a new acquisition model – a collaborative and fully engaged model – has emerged for major IT purchases. The new statewide contracts for personal computers, monitors, laptops, printers and other peripheral devices, and for enterprise servers and storage, offer a great combination of significant savings, excellent quality and a first for the State: common configurations established with the active assistance of the Information Technology Council's Acquisitions Committee.

We've already started applying that fully engaged model to other procurement activity. The Franchise Tax Board and Department of Technology Services have just recently concluded a consolidated licensing agreement with Computer Associates that gives us extraordinarily favorable pricing and access to products. Our external adviser on this negotiation tells us the contract is better than best in class.

Significant work has also begun to establish an Enterprise Architecture for the Executive Branch's operations and systems. We've got a small team working on this project being led by Steve Clemons, who is on loan to me from the Franchise Tax Board. We can expect to see some initial deliverables from this team next year.

We are making steady progress on a long-term project to establish common and interoperable business systems to support and manage state operations. The Controller's 21st Century project remains on track. The Department of General Services is addressing asset management in the context of the State's fleet of vehicles. We have a number of

departments working on department-wide ERP systems, and we are very actively trying to coordinate these independent, but clearly connected, developments.

We are making what I believe is some significant progress on an approach and plan to take the State's web pages to the next level of services, functionality and sophistication. We are seeing quite a few departments now take on their web pages in systematic and comprehensive improvements, including efforts at FTB, DHS's Office of Emergency Preparedness, DOJ, DMV, DIR and many others.

And we have taken the first step in the consolidation of common IT infrastructure and systems with the creation of the Department of Technology Services. We've had great leadership in planning and implementing the consolidation from Bob Austin and Ann Barsotti, among many others.

As I'm sure everyone is now aware, the Governor has nominated PK Agarwal to become the first permanent Director of the Department of Technology Services. Unfortunately, PK couldn't be here today to be with us. He will be starting at the Department in a few weeks. I'm pleased to see that we have been able to lure PK back to public service from the private sector, and I'm looking forward to working with PK to complete the organizational transformation that is now underway.

So the State of the State's IT is strong, and we are once again accelerating our efforts. As we begin to step on the pedal and gain more speed, we need to think hard about what it really takes organizationally to do IT right, and that is what I want to turn to in the remainder of my talk this morning.

First, I want to deliver a few remarks on the topic of organizational dexterity. Second, I want to identify some of the mega-trends that will be affecting all of us as we start moving through the 21st century. And then I want to close with just a few reflections on IT's role in addressing these mega-trends.

Organizational Dexterity

I want to first talk about the nature of organizational dexterity and why that characteristic is so vital today and in the immediate future to organizational health and prosperity.

Organizational dexterity is the capacity that an organization possesses for quickly responding with expertise and skill to changing conditions, changing conditions both within the organizational environment and external to the organizational environment. In short, dexterity is the ability to rapidly and expertly manage change.

We know from the teachings of both Darwin and Adam Smith that all creatures and all organizations are faced with a simple imperative: adapt or die. Adapt to changing conditions or become irrelevant. Adapt and improve or suffer the fate that may now be visited upon FEMA – scorn and distrust by the public.

Adaptability and agility are important components of the dexterous organization, but by themselves, they are not enough. You can't be best in class, you can't be an industry leader, if all you have is adaptability and agility. Adaptability and agility do not guarantee that you make the right decisions and choices. They simply assure that, even if you make the wrong choices, you can survive those bad decisions.

But if all you have is adaptability and agility, you will always be one step behind the dexterous organization, because the dexterous organization makes the right decisions along the way. They don't make the big mistakes that then require agility to save the day.

In the 19th and 20th centuries, organizational dexterity was not as important as it is today and as it will be for the 21st century. There is a simple reason for this. The rate of change has accelerated geometrically in the last 20 years, and it shows no signs of slowing down anytime soon.

When social, technological and economic change was measured in years or decades, organizational dexterity was not nearly as important as other characteristics, such as organizational weight, by which I mean the concentration and control of capital, and its resulting inertia. Good examples of this from the 20th century include AT&T before its breakup, Ford Motor Company in the first half of the century, Xerox which had a disturbing practice of accumulating all patents associated with printing technologies and then simply sitting on those patents, and IBM until their near-meltdown in the early 1990s. Dexterity didn't matter as much as stability.

Today, the concentration of capital and organizational stability is not as important as the ability to innovate and to adopt and adapt to innovation more quickly than the other guy – the ability to make the right strategic choices and then to execute on those choices. Concentration of capital doesn't have quite the same meaning when capital flows so freely and so quickly from one company to another, and from one country to another. No one, no matter how large, is safe from the competitive pressures brought on by rapid technological change and the globalization of markets. The next Google is always just around the corner.

The same rules apply to public sector organizations just as they do to the private sector. There is of course one difference. In the public sector, organizations don't really die – they just fade away into a haze of humiliation and public distrust. But no one who has committed his or her life to public service would be satisfied working in such an organization. So the imperative to adapt to change, and the need for dexterity in organizational management and leadership, applies to the public sector just as it does to the private sector.

The Challenge of Building Organizational Dexterity

Organizational dexterity is not something that you can just turn on. It's not something that can be assigned to an office or a department to create. If you want to have a dexterous organization, you have to develop dexterous leaders, managers and workers.

It's not enough to have one of these without the others. Everyone has to be on board. Dexterity has to become part of every day organizational behavior and organizational culture.

So how do you build and lead a dexterous organization? I believe that there are certain organizational strategies that are particularly well aligned with dexterity and serve to maintain organizational dexterity over long periods of time. There are five key ingredients to organizational dexterity:

- Commitment to innovation throughout the organization
- Willingness to take on and aggressively manage risk and uncertainty
- Forward-looking decision-making
- Delegation of authority commensurate with responsibility
- Preservation of resources for unexpected contingencies

I'll have just a few words to say about each of these.

First, you need to have a commitment to innovation throughout the organization. Innovation has to be systematically celebrated and rewarded. By some estimates, as much as 10 to 15 percent of organizational time needs to be devoted to thinking about and working on organizational improvement. This is a tough standard to meet, because the pressures of just getting the work out the door every day can crowd out the time that is needed to foster innovation. But the consequences of *not* making that time and those resources available are serious over the long haul. Your organization will very quickly fall behind, and catching up to innovation is extremely difficult once you've fallen behind.

Second, you have to be willing to take on a substantial amount of risk and uncertainty and be prepared aggressively to manage that risk and uncertainty. Innovation is risky business. Keeping up with change involves tolerance for uncertainty. Dexterity won't do you any good unless you are willing to jump into the unknown. The challenge here is to exercise disciplined judgment about how those risks and uncertainties are managed – this is what distinguishes dexterity from mere adaptability and agility. You need the capacity to exercise expert judgment in deciding what risks to take on and how to manage them. I am not advocating the enthusiastic and unrestrained embracing of all risks. That is a fool's journey. But the dexterous organization is not fearful of risks because it is confident in its ability to assess and manage risk and uncertainty.

The third key ingredient to dexterity is forward-looking decision-making. Don't waste time looking back at decisions already made. You can always second-guess yourself. But if you adopt that posture – spending more time looking in the rear-view mirror than looking at the road ahead – you will very quickly be forced into slowing down your forward progress. You will be so afraid of making the wrong decision moving forward, that you will end up not making decisions at all. And the nasty truth is that the failure to make a decision – or substantially delaying decisions whose time has come – always results in substantial lost opportunities. You may not immediately see these losses and

costs, but they are there, and they slowly eat away at organizational dexterity, not to mention profits and success. You need to identify the issues, gather the necessary information, make the decision, and move on.

Fourth, dexterous organizations understand that organizational success depends upon individual efforts throughout the organization – hundreds or thousands of people pulling together. This can happen only if organizational supervisors and managers throughout the organization are empowered to act. Executive leadership needs to set the strategic direction and policies, and then delegate to those responsible for implementing that direction and those policies the real decision-making authority they need to get the job done. If vertical controls are turned too tightly, if every decision has to come up to the top, a form of rigor mortis can quickly set in. And it's not that decisions won't get made quickly in such an organization, it's that everyone will always be pushing decision-making upstairs. There will, in effect, be a sort of reverse delegation where staff delegates decision-making back to the Director. That is backwards and upside down.

The final key ingredient for dexterity is preservation of resources for contingencies. Dexterity is a great organizational benefit, but it clearly comes with greater risks and costs. And you need to anticipate and plan for those risks and costs by setting aside resources to deal with the unexpected. There are, of course, lots of ways of doing this. A 3 to 4 percent reserve fund – or better, a 5 or 6 percent reserve fund – is a start. But those general reserve funds should be reserved for truly extraordinary events. What I'm really talking about is the ordinary unexpected contingencies that a dexterous organization routinely faces. For these contingencies, you really need to build a small amount of extra funding into almost every program and project. These extra resources are how you will keep moving and not lose your balance – they are a key part of dexterity.

So those are the five ingredients:

- Commitment to innovation
- Taking on and aggressively managing risk
- Forward-looking decision-making
- Delegation of authority; and
- Conservation of resources for the unexpected

An organization that nurtures these behaviors will be primed for organizational dexterity, and this is what it takes for organizations to survive and thrive in the 21st century.

The Role of Technology in Dexterous Organizations

I'd now like to turn to the role of technology in dexterous organizations. Information technology has of course been the primary driver in the acceleration of rates of change in the 20th century, and technology and innovation will continue to drive change in the 21st century. So IT is itself one of the big reasons that organizational dexterity has become so important. And IT is a big part of the solution.

Of course, technology is not the only major social change that we will be responding to in the 21st century. There are quite a few other changes underway that dexterous organizations must be prepared to meet. As we look forward into the 21st century, we can pretty clearly see a number of mega-trends that will affect all organizations.

- First, we're getting older. Older folks now outnumber younger folks and will do so for the remainder of the 21st century. The population is going to grow some 40% by 2050, but the number of people over the age of 65 is going to more than double by 2050, and the number of people over the age of 85 will quadruple by 2050.
- Second, we will continue to be a land of immigrants, but increasingly, the flow will be coming from Latin America and Asia. These immigrants will disperse throughout the country, but gateway states such as California will always have a more significant immigrant population.
- Third, the world's population will grow to about 9.1 billion by 2050 with most of that growth in urban areas. In the United States, the West and South will lead in population growth as our population ages, and that growth will be concentrated in what planners now call "exurbia." Make no mistake about it, however, people will not be moving to the hills. They will be moving to where there are government, social and medical services.
- Fourth, the New Economy and Technology Innovation will continue. As we have crowded into cities and matured into a full-blown information economy, our manufacturing industries have largely stagnated, increasing our reliance on global markets. We are in the process of converting into a service-based and consumer-based economy. Our global competitive advantage, if we still have it, is in new technologies and the intellectual property that accompanies these new technologies – IT, global networks & convergence of data, voice and video, biotechnology and nanotechnology. Within a few years, I would expect to see quantum technologies, including quantum computers, hard at work.
- Fifth, we are already living the trend towards globalization, and the only real question is how far can that go? There will continue to be integration and consolidation among global competitors, and multi-national or trans-national organizations – the so-called Non-Governmental Organizations – will continue to flourish. By the middle of the 21st century, we will fully appreciate how interconnected we are when it comes to global resources including the oceans, the air and energy.
- Sixth, when it comes to our own personal lives as consumers, we will see unprecedented conveniences, services and goods. Instead of Henry Ford's "one size for all," we will move towards "customized delivery for each consumer." Homeland security concerns will drive an enormous amount of information collection and analysis. And the combination of business collection of

information for marketing purposes, and government's collection of information for homeland security purposes, will keep privacy on the front burner. At least what privacy we have left at this point, which in point of fact, is probably less than we imagine.

- Seventh, with a 40% expansion in global population, there is likely to be some additional consumption of global resources. One oil company is noting in recent advertisements that we burned up the first trillion barrels of oil in 125 years, and the second trillion will burn up in the next 30 years. In addition to increases in energy consumption, we will of course see increases in food consumption. Fresh air would also seem to be consumed in ever greater quantities. The flip side of increasing consumption is increased flows of waste which places an additional burden on the environment.
- Eighth, it seems likely that political polarization will continue and may get worse. It is less clear how lasting a trend this will be, but we certainly are witnessing breakdowns in political consensus along some pretty big fault-lines – the reds versus the blues, the haves and the have nots, the urbanites versus the more rural communities. Anyone who doubts the importance of these divisions only need look at the reality of who received emergency services in the wake, or in advance of, hurricane Katrina. And overarching these divisions, there is a huge gap between the citizens and the government. Public trust in government is at a low ebb, and the governments' response to Katrina is certainly not going to help. Maybe the response to Rita will help restore some of that trust. Overall, however, government at all levels, federal, state and local, and all three branches of government, legislative, executive and judicial, have taken a beating over the last decade.
- Ninth and finally, we will continue to suffer from the reality of confused governance. Increasingly, no one seems to be in charge. No one can lead. No one is accountable. And in California, the People appear ready to step into that leadership vacuum, which raises the question of whether the People can govern any better than the politicians. There is no particular reason to believe that this condition of confused governance will disappear anytime soon, particularly in California where there are so many different layers of state, regional, and local governments, and an increasing willingness to take everything to the ballot.

What do all of the changes portend for public and private organizations? Well let me restate our future a little more succinctly. We face an aging, immigrant and retiring population that will be clustered around cities placing increasing demands upon government and other services and resources, a population that will be accustomed to unprecedented technological conveniences and largely confused about and distrustful of government.

The pressure upon government is going to be tremendous. We are going to need all of the intellectual creativity we can muster to help us meet the social, economic and political challenges of the 21st century.

Information technology is going to be the key facilitator for the changes that are necessary in government. We need innovation in both the services and information we provide to the public, and internally in the way we manage our own operations. We need to take on the risk of change and manage that risk intelligently. We need to shift our focus from worrying about last year's or last decade's mistakes, and start focusing on tomorrow's opportunities. We need to empower our departments and our IT workforce throughout government to move forward with courage, support and funding. And we need to make sure that we provide the resources that actually are necessary to manage change – you can't do this on the cheap.

We need, in short, to be models of dexterity in the management of State operations and information technology. Only by nurturing organizational dexterity can we hope to achieve the high goals we have set for ourselves in our California State Information Technology Strategic Plan.

Thank you for your attendance today, and best wishes for the coming year.