

Responsibilities of the Federal CTO and CIO

By John C. Checco, CISSP, CSSLP

I applaud the new president for his awareness that information technology is as important as any other infrastructure in the government. By creating Federal level Chief Technology Officer (CTO) and Chief Information Officer (CIO) positions, there exists the opportunity to create a long-term direction among the myriad of existing systems and processes within the government.

Many articles have already dissected the proposed responsibilities of the Federal CTO and CIO. In the Feb 16th issue of InformationWeek¹, for instance, twenty-six (26) business leaders in technology weighed in on the most pressing issues for the Federal CTO. As diverse as the expert opinions are, they all have merit. Congruent to the myriad of other articles covering this topic, this is indicative of how widespread the problems are that need attention.

All these issues can be extrapolated to three (3) ideals that should be addressed by the current administration with regard to the CTO and CIO:

1. Focus on the Organization Mission and Workflow, not Technology:

A CTO cannot possibly assume all of the responsibilities needed to lead an organization focus on technology alone. They must take into consideration the business value of the information issues that technology is trying to solve.

Conversely, the CIO must focus on the accuracy, confidentiality and security of information. But they cannot do so without in-depth knowledge of technology solutions used for the capturing, classification and dissemination of information.

To be an effective leader means to know what the organizations goals are, past efforts, and its current operations. Many times, the operations do not match the goals of the organization, and the technology matches neither the operations nor assists in attaining the goals' objectives.

The Federal CTO and CIO must align themselves with the missions of the various organizations, their goals and objectives; and affect the strategies pursued to achieve these objectives in a way that fosters cooperation and effectiveness, which eventually leads to efficiencies.

For the Federal CTO and CIO, their customers are the agencies they support, not the OMB.

¹ Reference: <http://www.informationweek.com/news/government/stimulus/showArticle.jhtml?articleID=214000132>

2. Synergies between the CTO and CIO:

The CTO's responsibilities are not the same as the CIO's. [We have yet to see the ramifications of the Obama Administration selecting a former CTO for the position of CIO.]

The CTO and CIO both start from the same basic question: "What information does each agency (or business unit) need to operate effectively?"

The goals of the CIO:

1. Identify essential information needed for proper business unit / agency operations.
2. Verify the accuracy of all data points.
3. Apply an Information Lifecycle Management (ILM) process for determining when information is the most useful and when/how it should be discarded.
4. Organize, normalize, aggregate, analyze and disseminate information to the appropriate operational entities.
5. Classify, protect and track usage of business critical information.

Contrary to popular practice, it should be the CTO supporting the CIO, not the other way around. The goal of the CTO is to effectively support the CIO's objectives:

1. Design usable business processes and workflows to support data capture.
2. Provide solutions to minimize duplication of data; thereby minimizing overlap and extraneous work efforts by business operations.
3. Create effective and unambiguous views of information for each level of audience.
4. Support feedback channels for refining business processes and workflows.

Both need to focus on the business processes and workflows. Does the unit/agency garner the appropriate information? Do they properly store, organize and protect this data? How do they interoperate and share information?

Although the CTO and CIO may hold distinct views to such questions, they should eventually arrive at a complementary set of goals. This is one place where segregation and specialization can positively affect government operations.

3. Stimulus Investment in Technology Infrastructure:

During the 1930's, the Federal plan to pull America out of the Great Depression was the creation of jobs through Federally-sponsored infrastructure expansion – specifically through the construction of bridges and roadways. America was primarily an industrial society and this plan answered two key problems: (a) the country lacked a viable transportation infrastructure to support industrial growth and (b) these projects needed the same (or similar) skills of our unemployed workforce at that time.

Post WWII saw the expansion of the housing, education and auto industries as a response to the multitude of military forces migrating back to peace-time. Again, this economic cycle took advantage of characteristics in our population – a mix of engineering and service-oriented demographics and a need for supporting the population explosion. However, it also recognized the need for retraining of America's workforce, so education became a priority.

Today's crisis consists of more complex problems. America can no longer be characterized as an industrial society, an engineering society or even a service society. We have become a society of deferment – managing and outsourcing our skills away. But there exists the opportunity to create a recovery effort that parallels those post-war times past.

Our government needs to rebuild its infrastructure; not its public works infrastructure but its information and technology infrastructure. The handling of information at the government level has grown and expanded haphazardly into a complex web of processing silos. Consider the lack of communication (electronic and human) between agencies such as the CIA and FBI. The creation of DHS simply places a wrapper on these problems and allows some cursory cooperation, but internal silos still exist.

The stimulus plans that have been implemented by both the Bush and Obama administrations are misguided; either they try to boost lending among a population that cannot repay its existing debt, buy off toxic debt to allow financial firms to operate with impunity, or try to create jobs through legacy public works projects. None of these approaches can have any long-term success.

To rebuild our economy with strength and longevity means to address our needs as a country and as a society. The stimulus packages should create large public infrastructure projects – but it should be focused on the information and technology infrastructure. This will employ the many Americans educated and skilled in technology (but unemployed due to off-shoring), increase the demand for higher education in technology areas and allow the government itself to be streamlined and efficient for the future.

Yes, it means the government will be paying more for technology services than the corporate world. The purpose here is to employ Americans, to stimulate the higher education of the population, and to launch the cycle of economic growth based on a solid foundation.

In Summary:

The CTO/CIO are first and foremost a strategic thinkers, thought leaders that can extrapolate needs from desires, and prioritize goals into tactical strategies. Secondly, they are business analysts which must address the realities of an organization against its objectives, understand

where the gaps lie, and the mitigation options. Thirdly, they are enablers, knowing where change is needed and disseminate authority to the “natural leaders” in the organization to affect that change. Finally, the CTO/CIO must be accountable – to both those below them as well as to those above; they must provide the metrics, the ways and means to measure success.

My hope is that our new Federal CTO and CIO will have the foresight to envision the feasible future, the qualities needed to chart a course, the leadership needed to promote their strategies both up and down the chain of command, and the authority to make a difference.

Or perhaps printing another \$800B will do the trick.

About the Author

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