Summary
Bridging the Gap: Improving SSA's Public Service Through Technology

The American public relies on the Social Security Administration (SSA) to deliver its services in a timely and effective fashion. Traditionally, the agency has been a community-based agency where face-to-face contact is the hallmark and primary means of delivering quality service. Currently, SSA uses a variety of technologies including telephone service, the internet, and expanding videoconferencing technology to serve its customers. The issue that the agency faces today is how to effectively expand its current use of technology to meet the service challenges of the 21st Century. While SSA has expanded its service options over the last twenty years, the agency, for a variety of reasons, has not always kept pace with the growing expectations that the American public has of the Social Security programs. This report will examine some of the problems SSA has with its current technology infrastructure, suggest changes to its governance structure, and urge a more complete integration of the agency's vision with its business and system development processes. The report will also suggest ways in which SSA can further improve the development of new tools that will better serve the American public.

Current Issues Related to the IT Infrastructure of the Social Security Administration

SSA is now confronted with two extremely critical issues: the vulnerability of the physical plant of the National Computer Center and the agency's backup and recovery capability. SSA's main computer operation center, the National Computer Center, (NCC), is a thirty year old facility located on the agency's main campus in Baltimore. While the facility's computing capacity has been expanded over the years, increasing workloads and expanding telecommunication services are now severely straining the NCC's ability to support the agency's business. By 2012, SSA estimates that the NCC, as a stand-alone data center, will no longer be able to support the expanding server environment. Storage capacity alone is expected to increase from roughly 500 terabytes to almost 1800 terabytes in five years. Additionally, significant structural problems and electrical capacity issues have developed that now make the construction of a new primary computer center imperative; however, the agency has projected that this new facility could not be brought online before 2016.

With the ongoing status of the NCC in question, the agency's ability to recover operational capability in the event of a disaster is increasingly at risk. Current disaster recovery plans utilize private backup and recovery facilities at an offsite location that would allow for the recovery of only 25 to 30 percent of the agency's production capacity. To address both the capacity issues at the NCC and the need for more comprehensive recovery capability, SSA recently completed construction of a second data center which is designed to handle about 50 percent of the work currently processed at the NCC on a routine basis with sufficient capacity and space to handle 100 percent of the agency's workloads in the event of a disaster. Although the agency took occupancy of the new center in January 2009, full functionality will not be achieved until early 2013.

Beyond problems with the physical infrastructure, the systems the agency uses to process its workloads are an assortment of disjointed tools that lack the integration needed for truly efficient processing. Some of the most significant problems with these systems are the consequence of a piecemeal approach to systems development. Software applications have, in the past, been developed in vertical stovepipes, usually to address a particular programmatic need such as representative payee or prisoner tracking systems. The results are, in many ways, predictable—redundant keying is necessary because data does not pass from one system to the next; "bridges" or links must be established in order for these systems to "talk" to each other; and workarounds—multiple steps required to force the system to take an action—are needed to accomplish what should have been a one-step process. And with the addition of each new system, SSA employees report that their ability to provide service deteriorates due to slow systems response times as well as lost time when the systems are unavailable.

The development and modernization of the agency's processing systems is also constrained to a significant degree by SSA's database infrastructure—a thirty year old system called MADAM (Master Data Access Method) which was developed in-house. The system has been called "obsolete" and "functionally primitive" because the code that underpins the database programming is the Common Business-Oriented Language (COBOL). COBOL is considered an archaic programming language by most IT professionals and has not been an industry standard for many years.[1]

This antiquated infrastructure leaves the agency vulnerable in a number of ways. SSA must rely on in-house trained technicians to support custom-built systems and in the event of an emergency there is little chance of outside industry support. Until the agency stores and processes its data operation on a modern database platform, the agency will be unable to consider certain service expansions. For example, effective 24/7 service cannot be provided because these databases must be taken offline daily to perform routine backups that preclude access for significant periods of time. To its credit, the agency has embarked in the last two years on a plan to migrate from MADAM to a new database system, but the conversion has been spread out over at least the next five years. Given the risks involved in continuing to use MADAM, the agency should determine how it can accelerate the current conversion process.

In addition to problems with its processing systems, the agency faces major challenges with its ability to deliver service via its telephone systems. Currently, telephone service is offered through both a national, toll-free 800 number telephone network and telephone service at local field offices. While currently handling about 57 to 60 million calls per year, call volumes to the 800 number network are estimated to climb to 61 million by 2010. Even with the introduction of automated services, this demand is outpacing the agency's ability to provide resources to

[1] Social Security Administration Electronic Service Provision: A Strategic Assessment. National Research Council, 2007. The NRC states that COBOL is the oldest business-oriented programming language in the history of computing, is generally considered to be obsolete and is only understood by a smaller and smaller fraction of the practitioner community.

deliver telephone service. Busy rates and unanswered messages are climbing in the field office as well.

SSA has recognized the inadequacy of its telephone operations and has taken steps to address the situation. In March 2008, the agency awarded a contract to build a Voice-over-Internet-Protocol (VOIP) telephone system for about 1,600 field installations and is considering how to modernize and expand the 800 number network. VOIP, which uses a high-speed connection to place telephone calls through the internet, is being marketed within the agency as a telephone system replacement project while much of its advanced functionality is designated for future consideration. Though the Board is hopeful that this new technology will achieve its potential, there is concern that the five year phased rollout of this entire project will be superseded by newer technology with even greater capabilities. There is great promise from this technology, but a sense of urgency is needed.

Foundation for a Successful IT Program

While the technical problems of the SSA's infrastructure are critical and must be addressed sooner rather than later, there are underlying problems including a lack of strategic vision and problems with IT governance that have contributed to the current state of the agency's infrastructure. Unless the agency addresses these two fundamental issues they may continue to experience critical IT issues that impede their ability to deliver effective service.

In the past, SSA considered the factors that influence service delivery and, in response, set out comprehensive, ambitious vision statements for the future. These past strategic plans contained both a long-range vision for the agency as well as high-level strategic objectives that could be used to guide all other business and tactical planning throughout the agency. In each of these plans, changes in societal factors and business services were assessed, emerging technologies were appraised and strategic recommendations were developed for implementation over the coming decade. The agency's most recent strategic plan, released in September 2008, lays out four high level goals which focus more on finding short-term solutions to existing problems. In truth, this plan is more tactical than strategic.

Future IT plans traditionally have been published in the annual Information Resources Management (IRM) plan which serves as the agency's strategic IT blueprint. But, in 2008, SSA developed a separate IT vision statement, an effort that appears to be an acknowledgement that the agency understands the importance of further developing an overarching IT plan. While the plan delineates the development and implementation timeline for major initiatives, it does not consistently define anticipated outcomes in terms of operations efficiencies.

It is not just the lack of effective planning that is in question; it is also the lack of an effective IT governance process to oversee planning and development. The governance of IT investments at SSA is a decentralized process. Most of the IT functions—investment planning, systems acquisition and development, oversight of the enterprise architecture and security—are divided between the Chief Information Officer and the Deputy Commissioner for Systems. Resource

allocation for systems initiatives are the responsibility of the Information Technology Advisory Board (ITAB) whose membership is comprised of representatives from all Deputy Commissioner-level components. While this process was originally developed as a way to ensure transparency, it appears to have resulted more in a dilution of ownership of the IT strategy. Further, through the intensive lobbying by project sponsors, this planning process can and has been manipulated with the result that funding decisions can be driven more by internal politics than by the agency strategic goals.

Changing Landscape Must be Addressed to Ensure a Successful Future

As the Social Security Administration looks to the future, the sheer volumes of current and future workloads are certainly the primary consideration driving the need for new and improved IT strategies. But in considering changes to the agency's IT strategy, SSA must look at all the factors that affect their operations now and in years to come. To assist with this assessment, there are a number of perspectives that should be taken into consideration.

Future Congresses and Administrations may be facing resource constraints more austere than anything experienced in generations. At this same time, SSA will be one of many agencies asking for increased budgets just to maintain current levels of service. For fiscal year 2008, SSA's IT budget for both equipment and services was $686 million. Roughly 70 percent or $482 million of the IT budget was spent for infrastructure maintenance just to keep current systems operating. Given the current budget scenario, SSA cannot fund the major multi-year systems modernization efforts from its annual IT budget. For these major systems projects such as the conversion to a modern database platform or development of a common disability processing system, the case must be made for a temporary multi-year capital fund.

As SSA evaluates its IT future, a critical look at what the agency's external customers are saying about the services the agency delivers is needed. Measurements of customer satisfaction are useful for shedding light on how well the customer has been served and learning what needs to be improved. Beyond "customer satisfaction," there must be an evaluation of what is not working or what is causing these customers difficulty when dealing with the agency. In addition to addressing problems, the agency must assess customer needs and expectations, especially with regard to technology-driven service channels such as the internet, telephone systems, and videoconferencing. SSA's vast network of over 1,600 offices makes up a community-based structure unlike any other federal agency; this network can provide valuable insights into customers' needs and expectations. Understanding these needs and expectations and acting quickly to address them can have major implications for any government agency; for SSA, it means that the public will maintain confidence in the accuracy and timeliness of all the agency's services.

Acknowledging the ongoing changes to its customer base is another important step in developing a new IT strategy for SSA. Demographic changes alone will require significant restructuring of the agency's service channels. By 2030, when all of the baby boomers will be 65 or older, nearly one in five U.S. residents is expected to be 65 or older. Agency projections

estimate that over 80 million people will file for retirement benefits over the next 20 years! In addition to the aging population, the 2008 Trustees Report estimated the net immigration rate (legal and other combined) would average 1,070,000 persons per year during the 75 year projection period.[2] The level of education and technological knowledge of the customer base also must be considered. More and more, studies are reporting that older adults are using the internet and this growing technology-based environment offers SSA important opportunities to provide services in new ways that meet their demands and expectations.

An independent appraisal of the agency's IT strategy is also important to determine where the agency stands with regard to the use of technology. In 2005, the agency asked the National Research Council (NRC) for just such an evaluation. In their final report, the NRC called for what amounts to a cultural change with respect to how the agency views technology and, in particular, electronic services. Researchers discussed two perspectives that are culturally intrinsic to SSA. First of all, SSA tends to see itself as unique, when in fact it is similar to many large-scale private sector organizations. Further, researchers reported that SSA still essentially believes that good service is face-to-face service while online services are too impersonal. As a consequence, SSA has not yet fully integrated electronic services into the agency's overall operational culture. In their recommendations, the NRC researchers urged the agency to make a clear commitment to electronic services as part of an overall service delivery strategy. Given some of the initiatives SSA has undertaken in the two years since the release of the NRC report—the redesign of its website, implementation of new user-friendly benefit applications, and additional online services—the agency is moving forward with an integrated electronic strategy.

As the NRC stated, SSA sees itself as unique in terms of the scope of its systems development, the size of its databases and the volume of its workloads. However, there are many large private sector organizations with service structures that use technology in a manner similar to Social Security. Likewise, there are other federal agencies with large-scale public service missions that have been confronted with challenges similar to the ones SSA faces. Both groups could provide insight into successfully managing major technological change. In discussions with several public and private sector chief information officers, business managers, and strategic planners who have had success in managing their IT investments, several essential principles emerged:

- the establishment of a centralized governance process responsible for carrying out the enterprise-wide strategic vision,
- business plans and IT initiatives that are integrated and support that vision, and
- a rigorous post-implementation evaluation that independently assessed the cost and benefits to the business, as well as the performance and cost of the project.

[2] The 2008 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, pg. 70.

Conclusion and Recommendations

The Social Security Administration is at a critical junction. Its ability to deliver service to the American public now and in the future is at considerable risk due to many of the factors discussed in this report. At the same time, the expectations of the public are changing; they look for the same service options from the government as are offered by the best in the private sector. To a significant degree, much of this can be addressed through technology. This transition will not be simple. It is a complex undertaking to plan, develop and manage the physical infrastructure, the hardware and software components, and the electronic services options in such a way that the need for urgency is balanced with steady, competent execution. While recent funding may help SSA address some of its most critical issues, there is still much to be done to establish a modern enterprise-wide systems architecture.

In order to effectively develop and deliver 21st Century service, the Board believes that SSA should address the following:

- Critical issues: Comprehensive backup capacity, replacement of the national computer center and conversion of SSA's databases are critical issues that must be addressed in the shortest possible timeframe as they are putting at risk the agency's ability to deliver services. To address the backup capacity and disaster recovery issues, the Board suggests that the newly formed Future Systems Technical Advisory Panel be enlisted to perform a quick analysis of the situation and provide recommendations to the Commissioner within 30 days.

- Strategic planning: The agency should initiate a long range strategic planning process that can serve as a guide for future program and systems development. Similar to efforts undertaken for 2000 and 2010, a strategic vision for 2020 and beyond must be developed in order to provide a "true north" point of reference for all agency planning efforts over the next decade. A new comprehensive systems modernization plan should also be developed that outlines the specific technology initiatives needed to support strategic objectives.

- Comprehensive business plans: High-performing organizations develop a vision of the future that emphasizes the overall process in order to achieve the intended outcomes. SSA needs to develop this vision and then conduct a comprehensive review of its major business processes. New business blueprints should be developed that reflect the most effective operation possible and should be used as the basis for efficient processing systems.

- Governance process: SSA needs to restructure its governance process for IT investments. The Board strongly suggests that the overall responsibility for IT should be centralized because the current bifurcated process has left the agency open to significant risk due to an aging infrastructure and poorly designed processing systems.

- A common case processing system for the disability program: It is imperative that the new case processing system consider the entire disability adjudication process in order to

achieve the intended outcome. Rather than beginning with a primary focus on the DDS segment of the process, the entire disability business process must be taken into account before building an integrated system that serves all applicants, beneficiaries, and decision-makers across all adjudicative levels.

- Electronic service delivery: In addition to current efforts to upgrade some of the agency's electronic services, much more is needed in order to meet the growing demand for alternative service delivery options. In accelerating the pace of expansion, the agency needs to incorporate electronic services as an integral part of all business plans.

External guidance on future technologies: The process of assessing emerging technologies and new IT-related strategies must be a continuous process. The guidance that will be offered by the Future Systems Technology Advisory Panel is a positive beginning, but there also needs to be an ongoing commitment to open the agency up to the many possibilities that technology brings to the entire organization.

In a 2008 letter to the Senate Appropriations Committee, the Board stated "that it is incumbent upon the Social Security Administration to once again envision a future where emerging technologies and other innovations can be used to deliver services that meet the needs of the American public. This will involve shedding traditional paradigms and undertaking a comprehensive review of current business processes, identifying gaps in service delivery, and looking for efficiencies that will leverage human capital and resources."[3] The Social Security Administration is understandably proud of its history of public service; it needs to honor that history by ensuring the agency's return to technological prominence.

[3] Letter to the U.S. Senate Appropriations Committee, Sylvester J. Schieber, Chairman, Social Security Advisory Board, June 19, 2008.