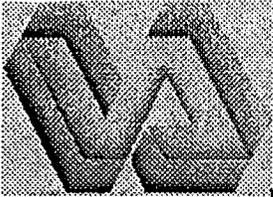


Veterans Benefits Administration

Lessons Learned Brief

January 27, 2000

**U.S. Department of Veterans Affairs
Veterans Benefits Administration**



Lessons Learned

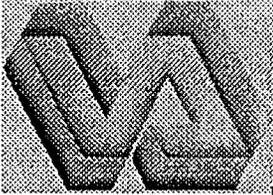
The Veterans Benefits Administration (VBA), in preparing for the Year 2000, learned many lessons from which they will continue to benefit.

VBA Y2K efforts and lessons learned throughout the Y2K preparations are applicable in helping an agency improve their information technology (IT) management standards. VBA Y2K preparations supported the Clinger-Cohen Act of 1996, which required improvement in the management of IT.

This brief documents VBA's lessons learned and future benefits that will be gained from Y2K efforts. The lessons learned documented in this brief have been categorized as follows:

Test Management

- Simulations
- Inventory Management
- Configuration Management
- Program Management Office
- Communication and Coordination
- Expectation Management



Lessons Learned

Test Management

Name: Test Coordination Schedules

Lesson: Testing requires all parties to have detailed and coordinated schedules. Prior to the Dry Run the Systems Implementation Division (SID) or Hines Systems Development Center (SDC) programmers supported all testing at Hines. When preparations for the Dry Run began it was determined a test of this magnitude required additional support and expertise. With seven operational entities involved a detailed schedule of tasks was imperative for successful coordination and implementation. The schedules also provided timeframes in which activities had to be completed and ensured timely processing internally and with other sites. Once these schedules were negotiated and published all areas were able to provide the needed support for testing.

Name: Test Script

Lesson: By developing and using test scripts there was better control exercised in testing. Test scripts were created for the Dry Run and Business Process Simulation (BPS) to give the testers complete control over the type and number of transactions entered by the Adjudicators. Test scripts also enabled Adjudicators to introduce cases from their own work that met the criteria for scenarios/cases selected for testing. In addition, test scripts standardized the information that was input and collected.



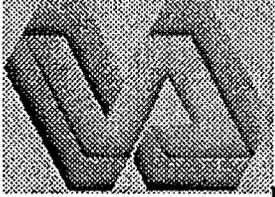
Lessons Learned

Name: Test Data Management

Lesson: In order to execute a repeatable test with add-on processing, there must be an organized test data management system in place. When the Dry Run and BPS were conducted, the VBA provided a structured framework for each test. The realization that test data from the Dry Run would have to be reused in both the BPS and Treasury Wrap-Around Testing highlighted the need for a consistent and formalized test data retention method. During the Dry Run, test folders were created for every test script executed. The folders were used to collect supporting screen prints such as MINQs and BINQs, capture problems encountered and document results. These folders were duplicated for the BPS and their results compared for accuracy.

Name: Test Checklists

Lesson: Development of checklists enabled the thorough completion of test exercises. Checklists to document completed activities were developed and maintained for the Dry Run, BPS, Millennium Health Check (MHC) and the Y2K rollover weekend. They ensured ownership was assigned to specific activities, and those activities were completed and monitored regularly.

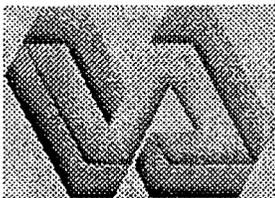


Lessons Learned

Simulations

Name: Simulation Exercises

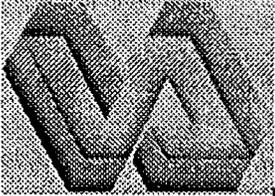
Lesson: Simulation exercises provided opportunities for the VBA to measure the effectiveness of efforts to implement large, complex projects employing a phased approach, and the ability of the organization to exercise it. The Dry Run and BPS provided a safe way of obtaining input into the rollover process that would otherwise not have been available. It tested not only the success of software remediation but also the ability of a distributed organization to implement new systems and to monitor and report on the successes of their implementation.



Lessons Learned

Name: Realistic Simulations

Lesson: Simulation exercises should be as “real” as possible, test the implementation as broadly as possible and focus specific attention on essential system components in order to properly evaluate systems that will actually be at risk when the simulated event actually occurs. The Dry Run and BPS demonstrated the value of a comprehensive and well thought-out planning process to help ensure the real results of the exercise were captured clearly and auditably. During the Dry Run multiple lessons were learned and documented. These lessons enabled the VBA to conduct a successful BPS. For instance, there were 44 problems encountered during the Dry Run, three were Y2K related and 41 non-Y2K related. Only three problems were encountered during the BPS, none of which were Y2K related. The Dry Run itself was a lesson learned – it confirmed the need for conducting “practice” simulations prior to conducting “real” simulations.



Lessons Learned

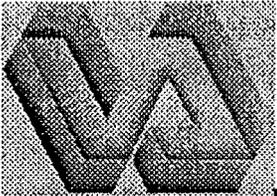
Inventory Management

Name: Inventory Assessment

Lesson: A comprehensive, structured inventory assessment provided a baseline against which complex efforts were planned, measured and managed successfully. The VBA conducted a thorough assessment of their hardware, systems software, network and applications. The level of detail obtained by this assessment supplied the information needed to prioritize, accurately estimate effort and manage remediation of the VBA inventory.

Name: Comprehensive Documentation of Applications and Interfaces

Lesson: Comprehensive documentation of data as it flows through applications and interfaces reduced the amount of time and effort required to research trading partner requests. As part of the Y2K effort each application and interface were tracked. This effort extended between sites and trading partners. The VBA now possesses an application and interface database. This database includes detailed information for each application and interface and enables the VBA to collect, update and maintain current status. The VBA can leverage this information as future requests from trading partners are received.



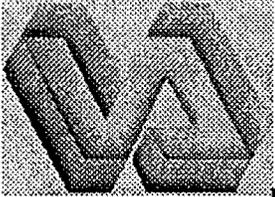
Lessons Learned

Name: Infrastructure Improvement

Lesson: Y2K preparations required each Service and staff to completely upgrade their infrastructure. Every component was forced to conduct a thorough assessment of their hardware, systems software, network components, applications, and data interfaces. In most cases, the level of detail obtained through this assessment was detailed and thorough. If it is kept current and maintained, it will continue to assist agencies in simplifying planning and estimating, project management and reporting, trading partner coordination, test planning, and oversight reporting.

Name: Security Awareness

Lesson: The Y2K Project illustrated the potential vulnerabilities of IT assets to failure, and raised the awareness of security and Information Assurance Protection among all agencies. In the later stages of the project (late 1999), every agency was forced to confront the vulnerabilities of their firewalls, susceptibility to viruses and hackers and develop contingency plans.

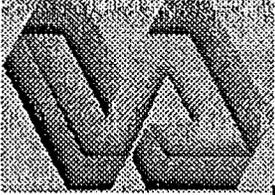


Lessons Learned

Configuration Management

Name: Published Processes

Lesson: A clear, consistent, published process for managing changes to the application inventory minimized testing conflicts, reduced the risk of production failures and reduced delays in project schedules. The VBA developed and implemented a structured change management process for the renovation of the Hines Compensation & Pension (C&P) inventory which clearly identified the rules for “checking” code out of production, passing responsibility from renovation assessment through modification, test and pre-production into production. The configuration management (CM) process also supported both the Maintenance model for renovation understood by the Hines SDC staff and the Factory approach employed by the contractor. This flexibility aided the VBA in employing its own personnel in the renovation process using methods they knew best, while allowing the contractor to employ methods most effective for their own purposes.



Lessons Learned

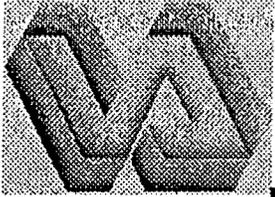
Program Management Office (PMO)

Name: Enhanced Communication

Lesson: The PMO standardized and enhanced communications between sites. The PMO approach to the Y2K project had several benefits. The VBA Y2K PMO was able to establish standardized procedures. This was particularly important for reporting and monitoring during the Y2K rollover. The standardized procedures ensured each individual or department followed the same guidance and interpreted information in the same manner. The PMO also facilitated communication within and throughout the organization. Since multiple areas in numerous geographical locations were involved, it was necessary to maintain open lines of communication between sites. This was achieved through regularly scheduled conference calls and team meetings.

Name: Risk Management

Lesson: Proactive identification and action minimized risks across VBA operations. The VBA implemented a proactive risk management program, which actively solicited input from the various sites. This information was reviewed and published on a weekly basis in the form of an Issues and Risks report. Further abatement activities included a CM assessment used to identify changes between the BPS baseline and the current systems and the creation of a short list of potential changes that could cause difficulties during the rollover. The VBA now has a deep understanding of the requirements for mitigating risks.



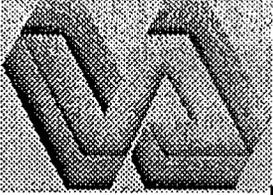
Lessons Learned

Name: Information Availability

Lesson: By developing an extensive inventory of manuals and procedure guides, the VBA increased the quality of information available for planning. The creation and review of manuals and procedures throughout the Y2K project ensured familiarity and expected participation and functionality of each area. The review process focused on achieving a comprehensive and workable strategy for the event. In addition, each participant received a chance to provide comments and suggestions on procedures. Items reviewed included Business Continuity and Contingency Plans (BCCPs), Austin's Event Management Plan, VBA's Day One Plan, and the VBA Information Coordination Center (ICC) Operations Manual. This review extended to the update of maintenance for contact listings of resources and expertise in specific field areas. The lists were beneficial in establishing a chain of command and researching necessary information.

Name: Event Preparation

Lesson: Methodical preparation for major events increases effectiveness of execution and minimizes difficulties. During Y2K preparation the VBA established a defined set of activities to support the execution of each event. These activities included designing templates and tools, securing equipment, updating manuals and procedures and conducting planning conferences. Planning conferences proved to be very valuable tools. Planning conferences included the Dry Run and BPS planning conferences, Regional Office (RO) planning conference and the MHC and ICC planning conference. These conferences provided a forum for all sites involved to meet and discuss potential complications, and to exchange ideas and concepts as to how best to meet end objectives.



Lessons Learned

Communication and Coordination

Name: Detailed Documentation

Lesson: Detailed records of daily activities during testing provided a solid audit trail, and captured lessons learned and assigned action items for the next test. During the Dry Run, BPS, MHC and Y2K rollover weekend, accurate and timely records of daily activities were documented and maintained. These records contained information on problems and action items requiring follow up and further action. These records proved helpful in ensuring all action items were followed up on and closed out, and provided traceable documentation for audit purposes.

Name: Coordination with Austin Automation Center

Lesson: Additional communication and coordination is required for test efforts involving the Austin Automation Center (AAC). Preparation for the Dry Run demonstrated management differences between the VBA and the AAC, which had a significant impact on the test. AAC's decision to isolate their Y2K test LPAR required the VBA to install an additional data line and reconfigure communication equipment. As an independent entity, the AAC makes changes to its hardware and software platforms without consideration of the potential impact to the VBA. Additional lead-time and planning is required in order to minimize the cost impacts and align technical requirements.



Lessons Learned

Name: Shared Information

Lesson: A shared body of knowledge was developed across the data centers. From the Dry Run and BPS through the MHC, the VBA developed a common body of knowledge that spanned the three sites. Data Centers were required to understand in more detail the specifics of each site's operations and processes, not known prior to the Y2K initiatives. For example, CARS and CAROLS both run one calendar day ahead of C&P and Education so that batch processing includes updated CARS data, or that BIRLS must be up before TP for the BDN to recognize the database. Critical hardware, software and applications were documented. Locations of the applications and support staffs were documented. Stage I applications reside on the platforms in Austin, but the support staffs reside at all VBA locations. This body of knowledge pointed out the most critical applications at each site are legacy systems that have been in existence since the 1960s and 1970s, and run on mainframe platforms.

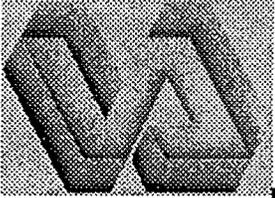


Lessons Learned

Name: Business Continuity and Contingency Planning

Lesson: The inventory and evaluation of equipment in the BCCP provides a benchmark for VBA to utilize as we proceed with future IT and non-IT initiatives. Three of the primary benefits of the BCCP were: VBA identified and prioritized essential business processes; identified and documented how to get the job done if the usual resources were not available; and, identified specific actions to mitigate the risks at the headquarters, regional offices and data centers.

Because of the work accomplished in development and testing of the VBA BCCPs, VBA is positioned to make business continuity and contingency planning a regular focus of the administration. VBA is well prepared to function in the event of a failure of our automated systems or an outside system we are dependent upon. While development of the BCCP was critical to preparations for Y2K, the real benefit is in what the VBA has remaining after Y2K. The BCCP is a document that if preserved and updated regularly to capture new information, will afford VBA quality plans for business continuity in the event of any type of disruption to VBA business processes on any day.



Lessons Learned

Expectation Management

Name: Information Sharing

Lesson: Proactive information sharing across the organization provided opportunities for better coordination and reduced instances of false information. The VBA employed a policy of reporting status using standardized, quantifiable information and conducted regular and as needed teleconferences. News and information was relayed up, down and across the organization. This provided many opportunities to understand current progress in depth. It also greatly assisted the various organizations in working together.

Name: Importance of Visibility

Lesson: With the appropriate funding, visibility and resources the VBA is capable of "pulling off" large scale projects across multiple geographical locations. The Y2K efforts and initiatives proved that when an issue is made a priority large scale projects can be successfully achieved.