



National Archives and Records Administration

8601 Adelphi Road
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Date : September 11, 2006

Reply to

Attn of : Office of Inspector General (OIG)

Subject : Advisory Report No. 06-15, OIG Monitoring of the Novell Netware/GroupWise Upgrade Project

To: Allen Weinstein, Archivist of the United States (N)

This is the second advisory report informing you of the status of the Novell NetWare/GroupWise Upgrade Project. As was the case when we issued the first advisory report for this project, based on efforts expended by NARA and contractor personnel to upgrade NARA's computer network operating system and electronic mail software, it is our opinion that, since our first report was issued on June 20, 2006, the Novell NetWare/GroupWise Upgrade Project has continued to progress in a satisfactory manner. In fact, it appears that the project, which has encountered no major technical problems, may be completed ahead of the scheduled completion date, October 31, 2006. Effort is underway at the last two NARA facilities, Archives I and St. Louis (Military Personnel Records), to upgrade the Novell software.

We believe, and the NARA project manager agrees, that upgrading the operating system and electronic mail software to version 6.5 constitutes only an interim measure for solving the agency's operating system and electronic mail software problems. This opinion is also shared by Gartner, an information technology research and advisory firm with over 10,000 clients, which has stated its belief that the Novell Corporation will continue to support the Netware operating system software, version 6.5, only until 2008. At that point, NARA will find itself in the same position that it is currently working to get out of, i.e., running obsolete network software. The Chief Information Officer is aware of the OIG position and has responded that Novell sales representatives have provided assurances that the Novell Corporation will continue to provide support as follows: "general support" through March 7, 2010; "extended support" through March 7, 2012; and "self-support" through March 7, 2015. The OIG does not place reliability on these representations and notes that customized support "offered" from March 8, 2010 through March 7, 2015 would likely be extremely costly. As a result, planning for the next software upgrade is critical and should begin as soon as the current upgrade project is completed. The need to begin planning for the next upgrade was previously discussed in OIG Report no. 06-09, Review of NARA's Information Security Program, dated August 9, 2006.

From the time the upgrade project was restarted in March 2006, we have been monitoring government and contractor personnel efforts associated with upgrading the Novell Netware operating system and GroupWise electronic mail software for NARA's computer network. Specifically, we have assessed whether (a) the project is meeting cost and schedule requirements,

and (b) management is taking timely action to correct any actual or potential problems with project performance.

Our monitoring effort has consisted mainly of reviewing applicable project documentation, including the Daily Summary Reports, Weekly Status Reports, Work Breakdown Structure, and Implementation Schedule. We also reviewed the NetWare/GroupWise 2006 Product Plan; NetWare 6.5 Upgrade Project Plan, Information Technology Support Services (ITSS) contract modification no. 25, Software Upgrade, dated April 27, 2006; and the Technical Direction Letter no. FY05-TDL-04: Completion of the NetWare/GroupWise Upgrade Project, dated May 23, 2005.

To date, the Novell NetWare/GroupWise Upgrade Project is proceeding ahead of schedule. According to ITSS contract modification no. 25, the effort was scheduled to begin on March 6, 2006, and be completed on October 31, 2006. It now looks as if the project will be completed by mid-September.

In our first advisory report, issued June 20, 2006, we reported that the migration effort was completed at 10 facilities. As of August 24, 2006, the effort was complete at 34 facilities.

The upgrade project has encountered no major problems with performance or technical issues. As of August 24, 2006, project personnel were addressing the following issues.

a. The Chief Technical Officer said that the agency would no longer run any web services on Novell Netware. However, effort remains to migrate this application (MPR Case Reference Guide) to another platform. According to the NARA Project Manager, the necessary equipment has been purchased and a Request for Change (RFC) issued to implement the change.

b. There is an air conditioning issue in the equipment room at MPR. Too much heat is being generated by the equipment in that room for the installed air conditioners. The agency is working with the General Services Administration to resolve this problem.

c. Caminosoft StandbyServer, software included in the upgrade project that allows for redundant data storage and failover safety, is experiencing problems from both a performance and a reliability perspective. This software replicates Netware servers, i.e., it connects to one or more primary servers using a standard link to mirror data between the networked machines. This creates a redundant environment, the purpose of which is to protect users against unnecessary downtime. The problem is that, with StandbyServer running, data backups are running approximately 10 times slower. This causes backups to run during the day which has an adverse impact on network performance. In addition, there have been problems with the StandbyServer servers failing over and recovering properly when required.

d. As of June 28th, the contractor stopped delivering Netware Upgrade Project Weekly Status Reports in a timely manner. These reports document (1) significant accomplishments for the current period, (2) planned activities for the next reporting period, (3) technical project issues, (4) action items, and (5) risk status. On August 10, 2006, the contractor submitted two reports for the weeks of July 6 – 11 and July 20 – 26. Since then, the contractor has not delivered any other

weekly status reports. According to the NARA Project Manager, not having the reports has not adversely impacted his management of the project.

In addition, the NARA Project Manager expressed the following concerns which, according to him, made his management of the upgrade project more difficult: (a) a communications plan was never finalized; (b) there was a lack of contractor project management continuity because the Program Manager was frequently replaced; (c) necessary hardware for the migration was not always acquired and delivered to NARA facilities in a timely manner; and (d) the contractor Program Manager sometimes failed to hold required daily meetings with the Project Manager. While these concerns appeared not to adversely impact the completion of the software upgrade project, they should be included in the project "Lessons Learned" to benefit future NARA project management efforts.

As part of our software upgrade monitoring effort, we are currently reviewing the following areas which have come to our attention: (a) Presidential Library Foundation computers and/or networks connected to NARA's computer network; (b) upgraded computer network performance and reliability compared to performance and reliability before the upgrade; and (c) NARA file server disk space utilization. The results of these reviews will be presented in future OIG Advisory Reports.

If you have any questions concerning the information presented in this Advisory Report, or there are other areas of the Novell software upgrade project that you would like for us to review, please do not hesitate to contact me.

Paul Brachfeld
Inspector General

Cc: NH (M. Morphy)
NHV (W. Day)

**NOVELL NETWARE/GROUPWISE UPGRADE PROJECT
NETWARE MIGRATION
As of August 24, 2006**

| TASK | WBS | START DATE | FINISH DATE | COMPLETED |
|--|------------|-------------------|--------------------|--------------------------------|
| Netware Migration | 1.6 | 3-15-06 | 10-12-06 | |
| 1. Washington National Records Center (Suitland) (Pilot) | 1.6.4.2.2 | 4-25-06 | 5-01-06 | Yes |
| Site Migrations | 1.6.6 | 5-01-06 | 10-12-06 | |
| 2. Archives I | 1.6.6.1 | 8-18-06 | | No See comment (a) below |
| 3. St. Louis – Civilian Personnel Records | 1.6.6.2 | 5-01-06 | 5-25-06 | Yes |
| 4. Dwight D. Eisenhower Library | 1.6.6.3 | 5-1-06 | 7-20-06 | Yes |
| 5. Federal Register | 1.6.6.4 | 5-01-06 | 5-19-06 | Yes |
| 6. Harry S. Truman Library | 1.6.6.5 | 5-02-06 | 5-26-06 | Yes |
| 7. Kansas City | 1.6.6.6 | 5-01-06 | 5-30-06 | Yes |
| 8. Lee's Summit | 1.6.6.7 | 5-01-06 | 6-02-06 | Yes |
| 9. Lenexa | 1.6.6.8 | 5-11-06 | 6-07-06 | Yes |
| 10. Pittsfield | 1.6.6.9 | 5-26-06 | 6-19-06 | Yes |
| 11. Franklin D. Roosevelt Library | 1.6.6.10 | 5-17-06 | 6-14-06 | Yes |
| 12. Waltham | 1.6.6.11 | 5-19-06 | 6-12-06 | Yes |
| 13. Anchorage | 1.6.6.12 | 5-18-06 | 6-19-06 | Yes |
| 14. Dayton | 1.6.6.13 | 5-12-06 | 6-16-06 | Yes |
| 15. Chicago | 1.6.6.14 | 5-11-06 | 6-23-06 | Yes |
| 16. Morrow | 1.6.6.15 | 5-15-06 | 6-23-06 | Yes |
| 17. Fort Worth | 1.6.6.16 | 5-10-06 | 6-29-06 | Yes |
| 18. George H. Bush Library | 1.6.6.17 | 5-11-06 | 6-22-06 | Yes |
| 19. William J. Clinton Library | 1.6.6.18 | 5-12-06 | 7-24-06 | Yes |
| 20. Lyndon B. Johnson Library | 1.6.6.19 | 5-15-06 | 6-28-06 | Yes |
| 21. Gerald Ford Library | 1.6.6.20 | 5-10-06 | 6-29-06 | Yes |
| 22. Gerald Ford Museum | 1.6.6.21 | 5-12-06 | 7-07-06 | Yes |
| 23. San Bruno | 1.6.6.22 | 5-25-06 | 7-10-06 | Yes |
| 24. Riverside | 1.6.6.23 | 5-24-06 | 7-12-06 | Yes |
| 25. Seattle | 1.6.6.24 | 5-18-06 | 7-27-06 | Yes |

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NETWARE MIGRATION
As of August 24, 2006**

| TASK | WBS | START DATE | FINISH DATE | COMPLETED |
|--|------------|-------------------|--------------------|------------------|
| 26. Ronald W. Reagan Library | 1.6.6.25 | 7-11-06 | 7-14-06 | Yes |
| 27. John F. Kennedy Library | 1.6.6.26 | 5-22-06 | 7-28-06 | Yes |
| 28. Ellenwood | 1.6.6.27 | 5-10-06 | 8-02-06 | Yes |
| 29. Jimmy Carter Library | 1.6.6.28 | 5-12-06 | 8-07-06 | Yes |
| 30. New York | 1.6.6.29 | 5-25-06 | 8-10-06 | Yes |
| 31. Philadelphia (Center City) | 1.6.6.30 | 5-17-06 | 8-02-06 | Yes |
| 32. Philadelphia (Northeast) | 1.6.6.31 | 5-25-06 | 7-27-06 | Yes |
| 33. Denver | 1.6.6.32 | 5-26-06 | 8-11-06 | Yes |
| 34. Archives II | 1.6.6.33 | 5-1-06 | 10-12-06 | Yes |
| 35. St. Louis – Military Personnel Records | 1.6.6.34 | 8-8-06 | 9-22-06 | No |
| 36. Herbert C. Hoover Library | 1.6.6.35 | 5-10-06 | 8-07-06 | Yes |

Comment:

(a) Flooding and power outages have delayed completion of the migration effort at this facility.

**NOVELL NETWARE/GROUPWISE UPGRADE PROJECT
TECHNICAL ISSUES**

| DATE | ISSUE/ACTION ITEM | COMMENTS |
|----------------|--|------------------|
| March 7, 2006 | Power and connectivity-related issues. | Resolved. |
| March 7, 2006 | Mike Peckman's delayed arrival. | Resolved |
| March 8, 2006 | Licenses for Standby Server Software. | Resolved |
| March 8, 2006 | SCSI cards for the servers to support the tape backup units. | Resolved |
| March 13, 2006 | Test the SCSI card versus internal SCSI adapter to determine if there will be a performance issue during tape backups. | Resolved |
| March 20, 2006 | Information is needed from the Dwight D. Eisenhower Library to determine when the migration can occur. | Resolved |
| March 21, 2006 | Explanation needed of how the FOSA sites will be covered when they are pulled to support the site migrations. | Resolved |
| March 22, 2006 | Web services will not run on Netware, but nothing has been done to migrate the application to another platform. | Work in progress |
| April 17, 2006 | Determine if the Federal Register will get its own server, and if the server will be located there or Archives II. | Resolved |
| April 18, 2006 | After the build of the Gerald R. Ford Museum is completed, there will be 5 servers for 12 remaining sites. | Resolved |
| April 18, 2006 | Equipment may not be delivered to various field sites in time for site deployment. | Resolved |
| April 18, 2006 | Problem with remote administrator software (RAdmin). | Resolved |
| April 19, 2006 | Servers missing. | Resolved |
| April 28, 2006 | Server crashes after Caminosoft software installation at Archives II. | Resolved |
| May 1, 2006 | Problem with the Point of Sale (POS) System. | Resolved |

**NOVELL NETWARE/GROUPWISE UPGRADE PROJECT
TECHNICAL ISSUES**

| DATE | ISSUE/ACTION ITEM | COMMENTS |
|-----------------|--|------------------|
| May 1, 2006 | “Memory leakage” problem discovered on Suitland server. | Resolved |
| May 7, 2006 | Air conditioning problem in the server room at the Military Personnel Records Center (MPR).. | Work in Progress |
| May 23, 2006 | “Memory leakage” problem at the Civilian Personnel Records Center (CPR). | Resolved |
| May 24, 2006 | “Memory leakage” problem at the Harry S. Truman Library. | Resolved |
| May 25, 2006 | Disk quotas causing some data to not be copied during server migration. | Resolved |
| May 31, 2006 | Upgrading of Foundation machines at the Presidential libraries. | Resolved |
| June 27, 2006 | Archives I server and workstation migration delayed because of flooding and power outages. | Resolved |
| July 18, 2006 | A number of users at Archives II were unable to access their H, S, and K drives after the migration. | Resolved |
| July 18, 2006 | Several users at Archives II were unable to log in to the new network environment. | Resolved |
| July 20, 2006 | A large range of workstation baselines at Archives II contributed to various problems with the migration. | Resolved |
| August 23, 2006 | At Archives I, desktop migrations are moving along slower than expected due to the layout of the building. | Resolved |
| August 25, 2006 | Problems with Caminosoft (backup software) from both a performance and a reliability perspective. | Work in Progress |