FINAL REPORT

Risk Assessment of Banyan Vines Kernel

Project No. 436/99

Internal Audit Bureau

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November 1999

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1.0 EXECUTIVE SUMMARY

In response to Y2K, HRDC has upgraded its networks to Banyan VINES 8.50 to ensure Y2K readiness. Y2K concerns prompted HRDC to complete a Streettalk Contingency Study should the upgrade to VINES 8.50 prove unsuccessful in January 2000. HRDC has since been informed that Banyan will no longer support their enterprise products in the near future. NHQ Infrastructure requested that the Internal Audit Bureau (IAB) review the HRDC Streettalk Contingency Study to ascertain that the conclusions would support a contingency process and mitigate the level of risk should a failure occur today or anytime after January 2000.

Human Resources Development Canada (HRDC) has a large investment in its networks which are critical to the department's continued delivery of quality services to Canadians. The department currently employs both Banyan VINES and Novell NetWare as network operating systems. VINES is the departmental standard with approximately 90% of HRDC's staff connected to VINES' servers. NetWare is employed within HRDC's Income Security Programs (ISP), primarily as part of the Income Security System Delivery Network (ISSDN).

2.0   METHODOLOGY

- This assessment focused on the StreetTalk Contingency Study, which examined the migration strategy from StreetTalk Directory Assistance (STDA) on VINES to STDA on NT if that were to prove necessary. The IAB also examined the viability and level of risk in maintaining the current environment.

- To determine risk, the IAB evaluated three factors of possible impact, probability and timeframe.

3.0   STATEMENT OF RISK

- The risk to the corporation is '**extremely high**' in that a loss of this service would effect not only our internal systems, but also our service to the public. The probability of its occurrence is 'high' in that the company has stated that they no longer intend to support their VINES products (Vines, STDA, Beyond Mail). The time frame is 'near term' because it falls within an immediate one-year window. The effect of these three risk criteria places HRDC at the highest risk level.

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- The dependence of our mail (Beyond Mail) and calendar (CaLANdar) products that are integrated into VINES further complicate the risk. Therefore, any solution to VINES directly effects our mail and calendar services. For example, the worse case scenario would be that our ability to work with e-mail would cease. At present, HRDC is encountering problems with a deteriorating mail service.

- In addition, the US Navy noted that due to its, "…interoperability, VINES version of Internet Protocol (IP) requires special interfaces and may not work in other IP environments. Limited market acceptance, and long term supportability make cost of ownership unattractive" (Information Technology Standards Guidance, Department of the Navy (USA), April 1999).

4.0   RISK MITIGATION

- To mitigate this risk, a 'Request for Information' is being created to find a workable alternative to our present environment. Currently, Infrastructure is planing to implement STDA (Banyan Product) for NT on an 'emergency basis' only if a failure should occur. However, the IAB's assessment concluded that this only marginally mitigates the level of risk since STDA will be phased out starting March 31, 2000 with a drop dead date of December 31,2000. Therefore, the risk associated with continuing the use of these products remains 'very high'.

- Most of HRDC Systems are under the impression that NT/STDA will be implemented on a national basis. As well, it was HRDC Systems expectations that with the implementation of the NT/STDA that, by default, would overcome some of VINES shortcomings such as limited volume size, file backups and drivers. Also, the regions expect to implement the NT/STDA solution in the near future to mitigate regional risks associated with the current environment. However this will not happen, since the current plan is to use NT/STDA on a contingency basis only.

5.0   CONTINGENCIES FOR RISK MANAGEMENT

- HRDC purchased 600 copies of NT to provide an adequate backup should VINES/STDA fail. As we previously stated, this does not significantly mitigate the risk should the STDA service fail. However, this is not to say that if VINES fails, NT could function as an interim solution.

- The release should be done on an "authorized as needed" basis. NT would be installed only on servers where VINES fails. This includes potential failures of file volumes, drivers, tape backup and disk drive solutions (Raid).

6.0   NEXT STEPS

- Since NT/STDA only represents a contingency, HRDC has yet to establish a permanent solution to our high-risk VINES environment. These problems will not be solved until a proper RFP process is implemented to find a reasonable alternative. Delays in this process will place HRDC's Infrastructure in a precarious situation. The IT Vision will be impacted adversely due to the timeframes required by an RFP of this size. Furthermore, HRDC's application development will be hindered because of infrastructure limitations. Although the RFI has been released, attention should be given to ensuring a speedy transition to the RFP.

- The two client products, Beyond Mail and CaLANdar are "buggy", with CaLANdar being a defunct product that is no longer supported by the Banyan Company. Needless to say HRDC must adhere to the existing mail system until the implementation of the new infrastructure is complete. However consideration should be given to terminating CaLANdar.

- Due to the importance of this initiative, a project office should be established to deal with all of the ramifications for the transition from the VINES environment to its successful replacement. This would support the horizontal nature and size of this project and its impact upon all areas of HRDC's business including programs, application development, communications and operations. Although, steps are in place to establish a project office, support is needed to ensure appropriate funding and commitment.