

APPENDIX A: TECHNICAL ENVIRONMENT

1. SERVER HARDWARE/OPERATING SYSTEM

The City uses HP/Intel Windows Server 2008R2 or 2012R2 platforms, and employs CA Nimsoft to monitor and manage the server environment.

2. STORAGE

The City has a SAN environment consisting of HDS Storage Subsystems (AMS2500, HUS150) and Brocade switches to support data storage requirements. IBM's TSM Backup/Archive, Veeam and Microsoft DPM products are used for backup and recovery services.

3. NETWORK

The City Backbone Network Infrastructure allows TCP/IP data communications between all City departments. This allows about 5,000 devices connected through the Backbone Network to be able to communicate with each other, the Internet and with central servers at two corporate data centers. Over 150 remote sites are connected to the City's Backbone Network at speeds ranging from 100/1000BaseT fiber optic connectivity for large LANs, 10 Mbps for medium sized LANs and 2 Mbps connections for small LANs. Cisco routers and switches are used in the WAN and LAN as well as for VPN remote access. Checkpoint Nokia firewall products provide network security.

4. TELEPHONY SYSTEM

The City has both Centrex telephony system and VOIP system.

5. EMAIL SYSTEM

The City has Microsoft Exchange server email system with SMTP configuration.

6. DATABASE

The City uses Oracle 11g Standard Edition and Microsoft SQL Server 2008 Standard Edition. For larger scale applications Oracle is the preferred platform. The City has implemented a functional database environment that fulfills all application system functional requirements, provides full online back-up, recovery and reorganization facilities including database transaction logging and up-to-the-minute forward recovery, plus timely automated reporting of actual or potential errors or problems. The City conducts database performance measurement and tuning as necessary.

7. DATA WAREHOUSE

The City utilizes Oracle's Enterprise Performance Management (Version 9.1) data warehouse and Cognos (Version 7.3 or higher) to provide in-depth analytical reporting. Extract, Transfer and Load (ETL) functionality is provided by Ascential (Version 7.5 or higher).

8. THE WORKSTATION OPERATING SYSTEMS USED BY THE LIBRARY DIVISION

Windows 7 Pro.

9. THE BROWSERS USED BY THE LIBRARY DIVISION AND THE VERSIONS

Microsoft IE 9, 10 or 11.

10. PEOPLESOFT HR AND TIMEKEEPING SERVICE

The City of Winnipeg is using PeopleSoft version 9.1 with PeopleTools 8.52.