



CORPORATE SERVICES

REPORT NO: COR-2024-11

TO: Council

SUBMITTED BY: Dan Elliott, Interim Treasurer/Chief Financial Officer

PREPARED BY: Karl Jeffreys, Supervisor of Information Technology

REVIEWED BY: Sharon Chambers, CAO

DATE: February 15, 2024

SUBJECT: Annual Hardware, Software & Network Infrastructure Upgrades

RECOMMENDATION:

THAT Report COR-2024-11 regarding Annual Hardware, Software & Network Infrastructure Upgrades be received as information.

SUMMARY:

During Capital Budget Deliberations, Item # 14, Annual Hardware, Software & Network Infrastructure Upgrades project in the amount of \$140,000 was discussed. The \$140,000 is comprised of three components: Laptop/Desktop hardware cyclical replacements (\$50,000), replacement of a server cluster (\$75,000), and other network hardware updates and replacements (\$15,000).

Committee requested additional information on the Township's laptop/desktop replacement program, as well as our disposal processes for replaced units. This report will focus on these two elements of interest.

REPORT:

The Township of Wilmot IT Services have completed a thorough and comprehensive review of IT needs as it pertains to the PC refresh program.
Items considered included:

- Hardware compatibility with Windows 11 and the end of service to Windows 10 in October 2025;
- Age, warranty and expected life of currently deployed hardware;
- Regional practices related to hardware replacements;
- Insurance pool requirements;
- Current and future security goals;
- End of life options for retired hardware;

Wilmot Township has typically replaced PC hardware on a 3-year cycle regardless of hardware type (Desktop/Laptop). Following the January 27, 2024, Committee meeting IT staff informally communicated with regional peers and discussed what their hardware refresh cycle looked like. Overall, most municipalities have extended their cycles in recent years and have not noticed any issues. As such, IT staff believes the practice of 3-year refresh is too short given the usable lifetime of current hardware platforms. A 5-year cycle appears to be a reasonable life cycle and is often reflected in the maximum warranty you can acquire on a new system. Moving forward, IT staff are recommending Wilmot Township moves to a 5-year cycle which should result in a consistent, predictable refresh cycle for Desktop/Laptop replacements. This will mean the Township will replace approximately 1/5th of its deployed hardware (Laptops/Desktops) every year, after 2025.

Another consideration in deciding the Township's hardware replacements is in meeting the Waterloo Region Municipal Insurance Pool's (WRMIP) cyber security requirements. Currently all Township platforms must be up to date from an operating system, software, hardware, or firmware perspective within 14 days of critical updates from the vendors in question. The end-of-life/end-of-support to Windows 10 puts all municipalities in a position requiring the upgrade to Windows 11 by October 2025.

Over the past two years, PC hardware replacement was held back over budget concerns and an attempt to get more use out of our current hardware deployment. This has however created a backlog against the end-of-support for Windows 10 and the hardware requirements for Windows 11. Specifically, Windows 11 requires systems to have the latest Trusted Platform Module (TPM) version 2.0; while most of the Township's systems are TPM version 1.2 and are not upgradable. This backlog will require slightly more systems being replaced in 2024 and 2025 with 2025 taking the brunt of the increase. This adjustment will bring the Township into a 5-year replacement alignment and satisfy the need to have hardware ready for Windows 11 by October 2025.

Currently the Township has a deployment of 117 end user devices (Laptops/Desktops); with 44 of these ready to support upgrades to Windows 11. This leaves 73 devices requiring hardware replacement to meet Windows 11 hardware requirements. Twenty-one users are using 2 devices with some having at least one Windows 11 compatible device. Many devices have recently expired or have expiring short term warranties that can be extended to a total lifetime warranty of 5 years.

After reviewing the hardware needing replacement and adjusting for users who will retire their second devices and moving systems between users as appropriate, the migration to Windows 11 can be accomplished using the following numbers for 2024 and 2025:

Number of laptops needed 2024	11
Number of All-In-Ones needed 2024	12
Number of Laptops needed 2025	21
Number of All-In-Ones needed 2025	10
Total Devices Replaced 2024	23
Total Devices Replaced 2025	31

The \$50,000 budget allocation for laptop/desktop replacements was intended to provide 20 replacements, together with other miscellaneous user hardware replacements as they may arise. Staff is recommending that 23 units be replaced, with 31 units to be replaced in 2025. Accordingly, no budget savings are available in the 2024 budget for laptop replacements. A small residual of this \$50,000 will be available to replace other hardware such as monitors and peripherals, and other system or network hardware.

Current and future laptops that are Windows 11 compliant will now move to a 5-year cycle of replacement, however that will not impact budgets until 2026, once all the fleet is Windows 11 compliant. Staff will also move to 5-year warranties.

By deferring some devices one more year staff will keep IT costs down in 2024 to accommodate the Server refresh taking place in 2024. On average, using a 5-year replacement strategy the replacements for 2024/2025 are exceeding the 1/5th of network replacement by 3 units in 2024 and 11 units in 2025.

In considering the decision to defer hardware replacements staff need to highlight the security concerns of doing so. By remaining on older hardware, it will mean staying on an unsupported operating system and possibly unsupported hardware beyond October 2025. This brings on an increasing risk of cybersecurity hacks such as ransomware, viruses, malware, rootkits and other exploits which attack an unpatched operating system or hardware platform. Past attacks have included both software and hardware vectors to gain access to user data and systems. Most noteworthy being Meltdown and Spectre which specifically attacked the hardware code (firmware) of victims' systems. The risk presented by such attacks can be very costly if successful as can be seen by reports from nearby municipalities that have been held ransom whether they paid the ransom or not.

End of Life Options

The Township has taken various approaches over the years regarding retired hardware:

- E-waste - hardware was stripped of items that could contain data and destroyed mechanically by IT staff before being taken to recycling facilities.
- IT Recycling vendor - This vendor would quote on hardware purchases for repurposing including costs to provide certificates of either hardware destruction or data wiping to facilitate repurposing of the hardware.
- IT staff factory resetting devices and making them available for purchasing by staff.

All the above options have their pros and cons. Those involving IT staff performing tasks took time and had an element of risk should some data not be removed from a device being resold or sent to e-waste. The IT recycler returned some value back to the Township and provided certified data destruction; however, with the Township extending the use of devices to 5 years the value retained in devices may not outweigh the cost of data destruction – net zero possibly. Further investigation can be taken as to the current feasibility of IT recycling.

It is paramount that regardless of the choice made with retired hardware, IT staff must take precautionary steps to ensure all data is kept secure and/or destroyed appropriately to protect confidential information, and the security of the corporation's data and systems.

FINANCIAL CONSIDERATIONS:

The total cost estimated for the 2024/2025 PC refresh is broken down as follows:

2024 Cost	
Laptops	\$27,500.00
AIOs	\$15,000.00
Total	\$42,500.00
2025 Estimated Cost	
Laptops	\$52,500.00
AIOs	\$12,500.00
Total	\$65,000.00

ATTACHMENTS:

None.