TO: Chair and Members  
Audit and Administration Committee  
WARD(S) AFFECTED: CITY WIDE  

COMMITTEE DATE: June 2, 2010  
SUBJECT/REPORT NO: Server Hardware Standardization (FCS10025) (City Wide)  

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RECOMMENDATION:

(a) That equipment manufactured by Hewlett Packard be established as the Corporate Standard for network servers and associated hardware.  
(b) That staff be authorized to deviate from this standard only when required by a specific software solution; and  
(c) That the standard be reviewed again in 2014.  

EXECUTIVE SUMMARY

The Information Services (IS) Division is responsible for setting corporate technology standards to ensure that the City has a computing environment that provides consistent, reliable services to staff and is efficiently supportable by IS support staff. The IS Division currently administers the day-to-day operation of 185 servers supporting well over 100 software applications.  

In order to provide the level of service currently experienced, a core requirement of IS is that the City standardizes on a single manufacturer for server technology, regardless of which manufacturer that may be. Currently 95% of the servers in place are manufactured by Hewlett Packard. The remaining 5% percent are supporting specific applications requiring staff to deviate from this defacto standard. This request for a single manufacturer server environment is in line with all similar sized municipalities that responded to a recent survey sent out by staff.
This report is being presented to Council in accordance with Purchasing Policy #14 – Policy for Standardization:

(1) “Standardization is a Management decision-making process that examines a specific common need or requirement and then selects a Good and / or Service that best fills that need to become the standard.

(2) No standard shall be established unless approved by the Manager of Purchasing and Council or by the Standards and Approved Products Committee”.

Without the approval of Council to standardize on Hewlett Packard, IS will be required to prepare generic technical specifications which may result in a mixture of multiple manufacturers providing server technology. This may have a negative impact on the level of service that would be experienced by the over 4,000 network users.

The pressure to reduce internal costs, coupled with increasingly commoditized hardware, has encouraged organizations to consider adopting a single-manufacturer for hardware acquisitions. In most cases, working with a single manufacturer can also lead to higher standardization, lower support costs and streamlined supplier management. Different servers require different tools for maintenance, monitoring and upgrades therefore staff must divide their training time and stay current across multiple platforms as opposed to developing a more in depth knowledge of a single platform.

Developing a standard for the manufacturer of corporate servers will not result in a single source purchasing situation. Staff will continue to use the competitive bid process which generally results in a minimum of three responses to all RFQ’s issued for server hardware.

Maintaining a single server manufacturer environment will minimize the total cost of ownership, minimize support issues, reduce administration and acquisition costs, and minimize spare parts inventory costs, and provide a reliable operation over the life cycle of the servers while maintaining the existing levels of service availability. For these reasons, IS is recommending that Hewlett Packard, the provider of City servers for well over 15 years, be approved as the standard manufacturer of City servers. Once this standard is established, IS will continue the practice of issuing a Request for Quote or a Request for Tender on a regular basis to select a reseller to provide the specified equipment based on procurement policies and procedures.

This standard will be revisited no later than 2014 to review current vendor architectures, management tools and supported portfolios. This review will result in a Council report recommending a standard based on the situation at that point in time.

In summary, it is more efficient and cost effective that a single manufacturer be established for the provision of server hardware regardless of which manufacturer is selected. Based on the following rationale, the IS Division recommends that the City define Hewlett Packard as the standard for data centre servers:

Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.
Values: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
95% of the existing servers are Hewlett Packard
Investment, to date in hardware, monitoring tools and staff training
Simpler administration, operations
Lower support and testing cost
More reliable and efficient infrastructure
Minimize staff time required for Server acquisition
Minimize financial investment in spare components
Staff have a high degree of familiarity with the equipment
Allows for continuity and consistency of training and interoperability
Maintain lowest possible total cost of ownership

The total cost of ownership includes a number of soft costs and therefore there is no specific analysis to confirm the savings which make it even more difficult to deduce a dollar amount of savings received and costs avoided with a standardized environment.

Cost avoidance is bases on:

- Different hardware requires different tools for maintenance and upgrades, and their deployment puts an added burden on IS staff to gain familiarity with these tools;
- Increased cost in training staff (platforms and management applications);
- Several support contracts to be maintained by staff;
- Additional testing would be required for applications in a multi-platform environment.

Many local resellers are authorized to sell and service Hewlett Packard hardware and multiple quotes will be received for each server request. This ensures the vendors remain competitive in their pricing. Although selecting this standard will eliminate competition with other manufacturers it will not prohibit a competitive bid process. Historically, we have seen intense pricing competition from the reseller which has savings to the City.

Alternatives for Consideration – See Page 6

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

| Financial:   | None |
|Staffing:     | None |
|Legal:        | None |

HISTORICAL BACKGROUND (Chronology of events)

Prior to amalgamation and the formation of the new City of Hamilton, both the City of Hamilton and the Region of Hamilton-Wentworth operated data centres to serve the individual corporate needs. Both organizations originally used Digital Equipment...
Corporation (DEC) servers to house all corporate data. Digital was acquired by Compaq and, more recently, Compaq was acquired by Hewlett Packard. For well over 15 years, the City’s/Region’s corporate servers have been provided by Hewlett Packard or Hewlett Packard acquired companies. More importantly, for more than 15 years, there has been a single manufacturer in place to meet all data centre server needs. Hewlett Packard (Digital) was initially selected based on the reliability, features, performance and price of their equipment. Since then, the City’s experience with these servers has been excellent. Gartner Inc., a leader in technology research whose services have been attained by the City, lists Hewlett Packard, Dell and Lenovo as leaders in this area of technology.

The City now has a single data centre with 185 physical servers supporting over 4,000 users. One of the key elements to the effective network operation currently in place has been the ability to have a single manufacturer provide all network servers. The average annual expenditure for servers is $75,000 with servers varying in price from as low as $2,500.

**POLICY IMPLICATIONS**

Corporate Purchasing Bylaw Policy # 14 requires Council approval for standardization on a brand manufacturer.

**RELEVANT CONSULTATION**

N/A

**ANALYSIS / RATIONALE FOR RECOMMENDATION**

(include Performance Measurement/Benchmarking Data, if applicable)

Industry analysts recommend that the total cost of ownership be considered in any computer system acquisition. This is a concept that includes all costs associated with technology equipment over its life cycle. When using total cost of ownership as the deciding factor in justifying a single manufacturer environment, it is essential that all costs are captured. Costs to be considered are:

- hardware acquisition costs
- hardware installations costs
- staff training costs
- software testing costs
- contract administration costs
- monitoring costs
- spare part inventory costs
- support costs and;
- user downtime costs.
With a multiple manufacturer server environment, research indicates all of the above items would increase the total cost of ownership when compared to a single manufacturer environment. The cost to transition to a new hardware platform would include a training component for a new monitoring tool. A cost between $25,000 and $30,000 including 20 out of office staff days will be incurred, while a new monitoring tool itself would cost of about $10,000. Neither of these costs will be incurred if the City standardizes on HP for corporate servers.

Gartner Inc. have researched the pros and cons to having a single manufacturer server environment. This research resulted in the following benefits to a single manufacturer approach:

- Simpler administration, operations and training
- Lower support and testing cost
- More reliable and efficient infrastructure.
- Closer vendor relationship for technology roadmap updates

All three major manufacturers of servers provide an excellent product that would most likely meet the needs of the City. Each vendor continuously upgrades their offerings and each of them is technically ahead of the competition, at some point in time, throughout the manufacturer’s equipment lifecycle. With this being the case, it is essential to consider the total cost of ownership and the impact of having a mixture of servers being maintained.

Currently 95% of the servers in place are manufactured by Hewlett Packard. The remaining 5% percent are supporting specific applications requiring staff to deviate from this defacto standard. This defacto server standard evolved, over a period of time, at a time when a ‘Standardization Policy’ did not exist. Initially the City of Hamilton and Region of Hamilton-Wentworth Transit had separate Network Support groups, each with a smaller number of servers. Both were using the same manufacturer for servers (transitioned from Digital Equipment Corp, to Compaq which is now HP). When the City and Transit amalgamated the Network Services group, now a single group, was now maintaining a larger number of servers at which time it became even more important to have a single manufacturer.

In summary, it is beneficial that a single manufacturer be established for the provision of server hardware. Based on the following rationale the Information Services division recommends that the City define Hewlett Packard as the standard for network servers:

- 95% of the existing servers are Hewlett Packard
- Investment, to date in hardware, monitoring tools and staff training
- Simpler administration, operations
- Lower support and testing cost
- More reliable and efficient infrastructure
- Maintain lowest possible total cost of ownership
- Minimize staff time required for Server acquisition
- Minimize financial investment in spare components.
• staff have a high degree of familiarity with the equipment
• allow for continuity and consistency of training and interoperability

Selecting this standard will not eliminate competition; many local resellers are authorized to sell and service Hewlett Packard computers. Multiple responses are received for each Server request, which ensures the vendors remain competitive in their pricing. Historically, we have seen intense pricing competition from the reseller which has resulted in savings for the City. This has been confirmed by the manufacturer.

**ALTERNATIVES FOR CONSIDERATION:**
(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

An alternative would involve issuing a Request for Proposal for Servers with no manufacturer specified. This may result in a mixed server environment which may have a negative impact on the Total Cost of Ownership and the infrastructure reliability. It may require additional monitoring software be purchased and maintained. This would require additional training for the staff to become familiar with the new manufacturers equipment and new monitoring tools required. All applications would have to be tested on the new equipment for compatibility.

The servers are replaced throughout the year, therefore it would be necessary to issue multiple RFP’s each year. Also, there is currently approximately $50,000 in inventory of spare parts for the HP Servers to minimize down time. In a mixed server environment it would be necessary to maintain a spare parts inventory for all manufacturers as parts are not interchangeable. This alternative would definitely increase the total cost of ownership for our fleet of servers.

**CORPORATE STRATEGIC PLAN** (Linkage to Desired End Results)


**APPENDICES / SCHEDULES**

N/A.