

Cost Benefit Analysis of the Telephone Systems Available to the City, the Centrex System vs. the PBX System

(City Council on February 29, March 1 and 2, 2000, adopted this Clause, without amendment.)

The Administration Committee recommends:

- (1) the adoption of the Recommendation of the Telecommunications Steering Committee embodied in the communication (January 21, 2000) from the City Clerk; and**
- (2) that the Acting Commissioner of Corporate Services be requested, after consultation with the City Solicitor, if at all possible, to share the entire consultants report, or as much of it as is legally possible with Mitel Communications Solutions.**

The Administration Committee submits the following communication (January 21, 2000) from the City Clerk:

Recommendation:

The Telecommunications Steering Committee on January 21, 2000, recommended to the Administration Committee, and Council, the adoption of the report (December 13, 1999) from the Acting Commissioner of Corporate Services.

Background:

The Telecommunications Steering Committee on January 21, 2000, had before it a communication (January 11, 2000) from the City Clerk advising that the Administration Committee on January 11, 2000, referred a report (December 13, 1999) from the Acting Commissioner of Corporate Services to the Telecommunications Steering Committee for report thereon to the Administration Committee meeting scheduled to be held on February 8, 2000, wherein it is recommended that:

- (1) the existing PBX systems be phased to the Centrex telephone system; and**
- (2) the Commissioner of Corporate Services be authorized and directed to take the necessary action to give effect thereto.**

(Report dated December 13, 1999, addressed to the Administration Committee from the Acting Commissioner of Corporate Services.)

Purpose:

Clause No. 2 of Report No. 3 of The Administration Committee, headed, "Office Consolidation Status Report", requested a cost benefit analysis of the telephone systems available to the City, in particular, the Centrex system vs. the PBX system. This report has been completed as directed.

Financial Implications and Impact Statement :

The one time conversion cost of \$775,000 is funded within the Telecommunications improvement budget, account XR314 X31400 6803 – METR530733. As well, some cost recovery will be made at the end of conversion with the sale of the PBX.

Recommendations :

It is recommended that:

- (1) the existing PBX systems be phased to the Centrex telephone system; and
- (2) the Commissioner, Corporate Services be authorized and directed to take the necessary action to give effect thereto.

Background :

An independent consulting firm was engaged through a public competitive tender, to review and recommend a telecommunications standard and strategy for the City of Toronto.

The consulting firm found that the City's requirements have changed fundamentally since amalgamation. Prior to amalgamation, the geographic areas served by each of the six former municipalities were relatively small. Even in the case of the former City of Toronto, entire departments were housed either at 100 Queen Street or in one of the adjoining buildings.

Prior to amalgamation, a combination of services (being a PBX for the City Hall complex, and Centrex for outlying offices) was both an efficient and an effective method of providing telephone services. Since most staff belonging to any one department were housed together, and because most individuals either started or ended their day at the City Hall complex, the PBX's services were very effective. The field service delivery personnel who were not based at City Hall (i.e., Recreation Centres, Fire Halls, Social Services offices, etc.) were accommodated on systems equipped with Centrex lines, or with Centrex telephones.

When the City amalgamated there were two types of telephone systems: 21,000 Centrex lines in the seven (7) municipalities and 2,700 telephones on two PBX systems. The PBX at East York City Hall was replaced earlier this year with Centrex lines, as were part of the PBX phones in the Toronto City Hall complex. The number of telephones still connected to the City Hall PBX system is approximately 2,000 sets.

Now that the six former municipalities and Metro have merged, staff in any one department are scattered across five or more buildings at different corners of the new City. Having two telephone systems is a barrier to effective communications, because it does not offer complete integration of voice mail system features and functionality for departments with offices spread across the city. For example, features such as Call Return (e.g., “press 8 to respond to voicemail”), Group Distribution Lists, and Message Transfer will not work between the two systems. Message Transfer is important because it allows staff at City Hall to delegate work to staff in the field by forwarding voice messages received at City Hall.

Maintaining two types of systems also requires the City to support two forms of administration processes and necessitates retraining City staff who relocate between sites.

Comments:

The independent consultants presented three options based on five year operational costs.

(a) Scenario No. 1: The status quo, Centrex everywhere but City Hall which has the PBX

This Scenario analyzed the implications of continuing to operate with two telephone systems.

Pros:

- (i) This solution has the least direct cost. The five year total cost of ownership (present value calculation) = \$ 28,809,000. This cost projection includes an expenditure of \$ 388,000 plus taxes to replace the oldest PBX telephone sets.

Cons:

- (i) Having two systems is a barrier to communications between staff at City Hall and staff located elsewhere because the PBX and Centrex versions of the Octel Voice Mail systems are different.
- (ii) Extra staff and overtime costs associated with maintaining two systems; and
- (iii) In order to implement charge back to departments for services, additional equipment (\$35,000 plus tax) and an additional full time employee (\$38,000 per year) would be needed.

(B) Scenario No. 2: Install PBXs in the major buildings, build a private voice network.

This scenario assumes that the City retain the current PBX systems and install additional PBXs in 8 additional major buildings (Etobicoke, East York, York, North York, Scarborough, and Metro Hall Civic Centre, Ambulance Headquarters, and 703 Don Mills Road) and would require up front capital costs of \$ 7,520,000.

Pros:

- (i) The City would own more assets (vs. leasing).

Cons:

- (i) The five-year total cost of ownership (present value calculation), including the capital investment would be at least \$31,590,000. This is the most expensive solution due to the high initial capital cost and double administration.
- (ii) This is also the highest risk solution, with a network that would be vulnerable to failure, having little redundancy or backup and many single points of failure.
- (iii) An additional three to four more full time employees would be required to manage the network and ten (10) PBX's at an estimated additional yearly cost of \$190,000.
- (iv) City PBX telephones would still require an upgrade at an estimated cost of \$388,000 plus taxes.

(C) Scenario No. 3: Install Centrex everywhere

This scenario assumes the City will keep the over 769 buildings already on Centrex and convert the PBX system at City Hall to Centrex.

- (i) The five-year total cost of ownership, including the capital investment would be approximately \$29,770,000. Part of this is the cost of converting 2,000 PBX phones to Centrex lines (\$ 775,000 plus tax over a five-year period). This assumes no reduction in Centrex rates at the end of the current five-year contract (January 2002).

Pros:

- (i) Positions the city for a competitive telephone quotation at the end of the current contract.
- (ii) Facilitates City-wide transparent operations. Departments can be virtual, moving staff freely between sites. Communications will be easier to facilitate with a corresponding increase in productivity.
- (iii) Only one system to administer. Most software changes done in "real-time".

- (iv) Service available on demand. Greater flexibility with respect to staff consolidations and relocations.

Conclusions:

In order to achieve a seamless, cost effective telecommunications service, the Consultants report recommends the adoption of the Centrex solution as the City standard for voice services. This is the least cost solution when all other benefits are considered and positions the city for a competitive telephone quotation at the end of the current contract.

Contact:

Jim Andrew, Executive Director, Information and Technology, Tel: 392-8421.

Mr. Brian Grantham, Mitel Communications Solutions, appeared before the Administration Committee in connection with the foregoing matter, and filed a written submission in regard thereto, a copy of which is on file in the office of the City Clerk.)

(City Council on February 29, and March 1 and 2, 2000, had before it, during consideration of the foregoing Clause, the following report (February 29, 2000) from the Commissioner of Corporate Services:

Purpose:

This supplemental report is submitted as a response to certain statements made by Mitel Communications Solutions in Communication 21 (revised).

Financial Implications and Impact Statement:

All financial implications are identified in Clause No. 4 of Report No. 4 of The Administration Committee.

Recommendation:

It is recommended that:

- (1) this report be received for information.*
- (2) Clause No. 4 of Report No. 4 of The Administration Committee be approved.*

Background:

Clause No. 4 of Report No. 4 of The Administration Committee, entitled “Cost Benefit Analysis of the Telephone System Available to the City, the Centrex System vs. the PBX System” addresses the request from Council (Clause No. 2 of Report No. 3 of The Administration Committee, “Office Consolidation Status Report”) which requested that a cost benefit analysis of the telephone systems available to the City in particular the Centrex system vs. the PBX system be undertaken.

Comments:

On February 28, 2000, Members of Council received a letter from Brian Grantham, Mitel Communications Solutions (Mitel) concerning Clause No. 4 of Report No. 4 of The Administrative Committee. In order to provide Members of Council with clarification vis-à-vis the concerns raised by Mr. Grantham, please note the following:

- (1) Mitel states that “At the Administration committee meeting on February 8, 2000 we (Mitel) were provided with five minutes to present our concerns. It is important to note that these five minutes represent Mitel’s entire opportunity to provide input into this decision.”*

The consulting company retained by the City to review and recommend telecommunications solutions for the City did consult with a number of vendors and technology companies including Mr. Brian Grantham from Mitel Communications Solutions.

- (2) Mitel further stated that “When staff members were asked to respond to the deposition made by Mitel, they indicated that an RFP had been let to replace the existing systems, that three vendors had responded including Mitel, and that the information and costs included in their cost benefit had been provided by Mitel. Mitel is unaware of any public RFP to replace all or part of the City’s telephone system. ..Mitel certainly did not provide the information or pricing included in the aforementioned cost benefit analysis nor can we determine how the numbers were arrived at, nor do we believe they accurately reflect the cost of a PBX solution”.*

Corporate Services, through the Purchasing and Materials Management Division of the Finance Department issued a Request for Proposal (RFP) for an independent consulting company to review the telecommunications of the City and to make appropriate recommendations. The Consultants, as part of their fact finding did consult with the existing vendors of telecommunications including Mitel. Costs included in comparisons were based on existing costs charged to the City.

- (3) Mitel also noted that “In our deposition, we (Mitel) attempted to show that the cost justification used by the acting Commissioner of Corporate Services in his December 13, 1999 report had inappropriately attributed an incremental \$ 20 million to a PBX solution. In response to our deposition, the Acting Commissioner stated that we (Mitel)*

had omitted a number of additional costs, which he said would have to be attributed to a citywide PBX solution. It is important to note that our analysis was based upon the figures provided by the Acting Commissioner in his report. These were not figures that we could have omitted because they were not part of his report.”

The report to the Administrative Committee was a brief overview of the Consultant’s findings and recommendation. As noted and responded at Committee with respect to the Mitel deposition, the Consultant’s report included the entire City of Toronto telecommunications requirements and did not treat City Hall and the PBX as a stand-alone, un-networked island. The \$ 20 million included staff costs, maintenance, cable, key systems, voice messaging systems, ACD systems and all other related telecom costs. This comparison was included in all four scenarios reviewed.

- (4) *Centrex is a product that is regulated by the CRTC. The applicable tariffs dictate what functionally can be made available to the Canadian public via Centrex and at what prices... using today’s published CRTC Centrex tariffs we (Mitel) calculate the costs for Centrex will be far greater than the reported costs of \$ 29 million over the next five years.*

The City receives a volume discounted Centrex rate based on quantity and includes City Police, TTC, some Agencies, Boards, and Commissions and the Toronto District School Board. The volume discounted rate was used by the consultants, in their report, for cost comparisons.

- (5) *“Staff made statements in the Acting Commissioner’s report and during the Committee meeting regarding Mitel’s integration to the Octel voice mail systems. Staff also stated that the procedures to facilitate moves and changes are cumbersome. Both of these issues were raised in an attempt to justify their recommendation for technical reasons...”*

The City has held a number of meetings with Lucent Technologies to discuss the seamless integration of their Octel voice mail systems when residing on a Centrex and PBX platform. Lucent has confirmed on more than one occasion that there cannot be complete integration of voice mail systems on differing platforms. With respect to procedures to facilitate PBX moves and changes, administration of differing systems requires the City have duplicate system administration equipment, reporting systems, and staff training. Major upgrades must be done on an after hours basis or requires taking the system out of service during normal working hours.

- (6) *Mitel continues that “The associated costs for this service are substantially less than the replacement of the PBX systems. Why spend millions of dollars to replace PBXs to rectify a voice mail problem that can be solved with a substantially smaller investment in the voice mail systems themselves?”*

The Consultants report recommended a one time expenditure of \$ 775,000 to implement a seamless voice and voice message system across the City. The implementation of the recommendations will enable the City to complete the ability to manage one (1)

telephone system including the ability to charge back costs to departments, presently unavailable on PBX. Additional benefits include reduced retraining of staff as they relocate as well as the redeployment of telephone sets across the corporation.

- (7) *The last major metropolitan area in Canada to put their entire voice infrastructure out for tender is the City of Quebec.... Last month the contract was awarded to Bell Canada who won the bidding process with a Mitel PBX solution.*

The City of Toronto is the 5th largest Government in Canada and requires a telecommunications infrastructure to provide over 20,000 lines in over 700 locations. Not knowing the size and complexity of the City of Quebec, it is impossible to provide further comments at this time on their decision.

- (8) *Mitel makes further comments that “Given the lack of participation by all vendors and the apparent confusion regarding costs and functionality, staff should be instructed to explore all possible solutions to the City’s short term voice communications problems.*

The Consulting Company did provide a comprehensive report including four alternative scenarios for the City of Toronto.

- (9) *Mitel has also stated that “Given the recommendations put forward by staff are based upon a mysterious consultant’s report that no one has seen other than themselves, staff should be instructed to immediately release the entire document to all interested parties.”*

The Administrative Committee received a report on the Consultants Recommendations with recommendations to proceed. Full copies of the report are on file in the Clerk’s office as per standard procedure. Mitel was advised that they could request a copy of the report through the Freedom of Information Act. To the best of my knowledge they have done so.

- (10) *Mitel has also noted that “Given the apparent disregard for the City’s procurement policies, staff should be instructed to use proper tendering processes to define requirements and secure competitive bids”*

As noted earlier, the Consultants were retained through the RFP process issued by the Purchasing and Materials management Division of the Finance Department.

- (11) *Mitel has commented that “Given her long standing relationship with Nortel’s National Centrex User Group, the City’s Joan Moyer should be instructed to declare a conflict of interest in these matters and remove herself from the procurement process to eliminate any potential perception of bias.”*

As Manager of Telecommunications for the City of Toronto, Ms. Moyer is responsible for the provision of all telecommunications services for the City. Many manufactures support and encourage user groups as a means to obtain valuable customer input of their service offerings and delivery. The Canadian Centrex User Group is a forum run by

users and includes members from all levels of government, Banks, and most major users of the technology. The forum provides an opportunity for customers to dialog with the manufactures about their product, new service offerings, and a vehicle to voice concerns and problems. An additional benefit of user groups is the opportunity to discuss technology solutions with peers in the industry. To my knowledge Mitel does not have such a forum. If they did, the City would participate.

- (12) *Finally, Mitel has stated that “Given the challenges associated with amalgamation and the emergence of Internet technologies, staff should be instructed to develop a strategic plan that will define the City’s long term direction. This plan will form the foundation upon which the City’s entire voice infrastructure can be put out for tender in eighteen months when the current Centrex and PBX contracts expire.”*

As Mitel correctly stated the consultant’s report did recommend that the City of Toronto undertake a long-term telecommunications strategy that will take into account the rapidly changing telephony technology environment.

Conclusions:

That this report be received for information and that Clause No. 4 of Report No. 4 of The Administration Committee adopted.

Contact:

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(City Council also had before it, during consideration of the foregoing Clause, a communication (February 28, 2000) from Mr. Brian Grantham, MITEL Communications Solutions, a Division of Mitel Corporation, requesting that this matter be referred back to the Administration Committee for further review.)

(Councillor Giansante, at the meeting of Council held on February 29, March 1 and 2, 2000, declared an interest in the foregoing Clause, in that his wife is an employee of Bell Canada.)