

November 8, 2001

Following is the list of vendors and their respective submittals for the Request For Information (RFI) for local telephone services for the City of Milwaukee Municipal Telephone System. The services are for T1 circuits, Major Business (1MB) lines, metered calling costs per minute, "800" calls and Information calls.

AT&T _____	\$ 181,860.00
Global Crossing _____	\$ 372,456.00
Norlight _____	\$ Incomplete sumittal
SBC/Ameritech _____	\$ 158,360.00
TDS Metrocom _____	\$ 170,100.00
Time Warner _____	\$ 168,450.00

The lowest cost submittal was SBC/Ameritech at \$132,296.00 per year for the services outlined.

Very Truly Yours



Michael D. Panlener

Telecommunication Engineer

**Ridgewood**

Network Consulting, Inc.

**CITY of MILWAUKEE**

**TOTAL COST OF OWNERSHIP STUDY**

**TELEPHONE SYSTEM REPLACEMENT**

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## Executive Summary

The Department of Public Works for the City of Milwaukee has engaged Ridgewood Network Consulting, Inc. (Ridgewood) to assist them in determining the cost of replacing their existing 15-year-old Rolm 9004 PBX. For the purpose of this project, Ridgewood has conducted a cost analysis on the replacement of the system. This project is independent of the Request for Proposal for the City's Police, Fire, and 911 systems. The replacement of the phone system would consist primarily of installation of either a City premises based Private Branch Exchange (PBX) or a system located on vendor premises and leased back to the City on a monthly basis (Centrex). This analysis will be used as a means of determining a budget for the replacement of the City's telephone system in the 2002 capital budget.

The deliverables of this project shall include an analysis of various replacement options and the associated costs of each option. The analysis shall include the following options: 1) City ownership of the telephone switching equipment and housing the equipment on City premises, maintaining the system with City employees; 2) City leasing the switching equipment and housing the equipment on City premises and maintaining the system with City employees; 3) City leasing the equipment and housing the equipment on City premises and maintaining the system using vendor employees; and 4) City outsourcing the system and housing the system on vendor premises (Centrex). In addition, the analysis shall address the cost-effectiveness of various options for system technical support, including providing in-house, City employee support, or out-sourced, vendor provided support. There may also be a viable combination of the support options mentioned.

The schedule for completing the entire implementation is estimated to take from 100 days, if phases are run concurrently, to 150 days, if run consecutively. The total costs associated with this project are projected to be approximately \$5,000,000 in the least cost environment to \$22,200,000 in the highest cost estimate, based on Avaya figures. These estimates include costs of all labor, whether outsourced or internally supplied. These characteristics provide the most fiscally conservative estimate possible.

The outright purchase price of the system that has been designed, including the PBX, voice mail system, Automatic Call Distribution System (ACD), all telephone sets, installation cost, and associated cross connection of wiring, is projected to be \$4,961,800. This is the price that will be used in determining the best acquisition alternative for the City. Projected direct annual cost savings of \$122,200 is reasonable to expect as a result of this project. These savings come in the form of less real estate being used to house the equipment room at 809 N. Broadway, and the fact that more modern systems consume much less energy and need less stringent environments in which to operate. We will also eliminate the maintenance contract that is now in place with Norstan Communications to be used as a safeguard in case of a catastrophic failure of the current system. There are other major benefits that are less tangible, but have even greater impact. This would include the integration between the administrative switch and the new Police Department Avaya switch, the seamless networking between these two switches, and the greatly reduced energy costs associated with this switch versus the fifteen (15) year old system currently being used.

For the purposes of this study, we looked at the product life cycle in two different terms; 1) a 15 year product life, and 2) a 5 year product life.

- **Scenario 1)** City Purchases a PBX system located on City premises, and does self-maintenance. Assumes City does a one-time purchase of the system for \$4,961,800, on a five (5) year note at four (4)% annual percentage rate, and does 1100 hours of maintenance work on the system annually, using City employees. This option includes spare maintenance circuit cards being purchased and housed on City premises in year two (2), to be included in the Six (6) Year Plan, for use in case of system failure, as well as the use of Avaya maintenance personnel in an emergency situation through the use of their Remote Maintenance Administrative Traffic System (RMATS).

15 year analysis total cost = \$6,347,747.66

5 year analysis total cost = \$4,352,283.66

The 15-year analysis assumes no residual value of the equipment at the end of 15 years. The 5-year analysis assumes and includes a 28% residual value of the equipment at the end of the 5-year period.

- **Scenario 2)** City enters into a Five (5) year State and Local Government "True Lease" from vendor for a PBX system located on City premises, and does self-maintenance. This assumes that the City enters into a true lease with Avaya Financial Services, and does 1100 hours of maintenance work on the system annually, using City employees. This option includes spare maintenance circuit cards being purchased and housed on City premise in year two (2), to be included in the Six (6) Year Plan, for use in case of system failure, as well as the use of Avaya maintenance personnel in an emergency situation through the use of their Remote Maintenance Administrative Traffic System (RMATS).

15 year analysis total cost = \$8,605,704.86

5 year analysis total cost = \$5,617,880.86

The 15-year analysis assumes that the City re-leases the equipment from Avaya Financial Services at the end of the original 5-year term, for an additional 5 years. At the end of the additional 5-year period (2012) the City will receive title to the equipment and own it. The 5-year analysis assumes that the City must make a decision at the end of the 5-year term to release the equipment, purchase the equipment, or return the equipment and install other equipment.

- **Scenario 3)** City enters into a Five (5) year State and Local Government "True Lease" from vendor for a PBX system located on City premises, and has vendor maintenance. This assumes that the City has Avaya Communications perform all maintenance on the system under a maintenance contract for 8:00 – 5:00 p.m. Monday through Friday coverage.

15 year analysis total cost = \$10,731,870.44

5 year analysis total cost = \$ 6,073,076.91

The assumptions in this scenario are the same as in scenario #2.

- **Scenario 4)** City leases Centrex service from Ameritech with all switching equipment located on Ameritech premises, and all maintenance being performed by Ameritech personnel. This assumes that the City enters into a lease agreement with Ameritech, and that Ameritech technicians perform 1100 hours of system maintenance annually, at \$150 per hour year in one (1) and a 5% annual maintenance rate increase.

15 year analysis total cost = \$22,221,630.72

5 year analysis total cost = \$ 8,048,356.53

The 5-year analysis assumes that the City must make a decision at the end of the 5-year term to release the Centrex, or install other equipment.

It should be noted that to expect a fifteen (15) year life time from today's technology is somewhat optimistic. In most cases private businesses and even most municipalities, are opting for purchases or true leases of three (3) to five (5) years, at which time they will determine their then current needs, assess what technological advances have taken place, and decide if they should continue leasing the installed equipment, purchase the installed equipment, upgrade the installed equipment, or install new equipment.

The State and Local Government "True Lease" option is presented by Avaya Financial Services, as Financing Option #1 in Appendix B on page 18 of this report.

Based upon these four (4) options, Ridgewood Network Consulting, Inc. would recommend that the City acquire a system based upon Scenario 1; the City does an outright purchase of a PBX system, located on City premises, and maintains the system with City employees. This option is the one used by the City of Milwaukee Police Department, the majority of municipalities around the country, and by many private companies as well.

## **Project Initiation and Purpose**

The purpose of this project is to determine a cost for replacement of the current telephone system now serving the administrative functions of the City of Milwaukee, with the exception of any Police, Fire, or 911 service locations. The system being replaced is a Rolm Model 9004 PBX installed in approximately 1986. The manufacturer discontinued this system a number of years ago, and replacement parts are only available on the secondary/used market. The City has been maintaining the existing systems with parts purchased from both The Wisconsin Gas Company and Towne Realty over the past three years. Most of the phones connected to this system are now 15 years old, are showing wear and are in a more frequent need of repair.

A new Citywide system is desired for a number of reasons:

- Lack of spare parts and the age of the system introduce unacceptable risk in its continued use.
- The age of the telephone system does not allow the City or its constituents to take advantage of newer technologies available on the market today.
- The new system is able to seamlessly take advantage of the high-speed network that the City has already put in place and thus uses many less parts to support that network.
- Support costs for the current system have risen including the cost to maintain the environment in which the system is housed. The new system would have a much smaller footprint and thus use a smaller equipment room and less environmental conditioning. The City will also realize a significant operating savings in the battery back-up system, needed to ensure telephone system operation in the event of a power failure.
- The current system does not allow specific identification of emergency calls placed to 911. If a phone at a remote location is connected to the 809 North Broadway location, the address provided to the 911 system is 809 North Broadway.
- The new system has the ability to recognize and display the calling party telephone number (Caller ID). This can give the City the ability to know not only who is calling at any particular time, but can be used to build a database of historical calling patterns into the City system.
- The new system has the capability of providing services for enhanced call centers, giving many more options and enhanced features to the high volume calling centers within the current system (Ready Reference, Assessors Office, Treasurers Office, Department of Public Works Call Centers for Sanitation, Forestry, Water, etc).
- The new system has the capability of Unified Messaging, which give users the ability to leave and retrieve messages one time through one system, instead of having to access different systems like voice mail and email systems.

For the purpose of this cost study, it was mutually agreed upon by the City and Ridgewood, that in view of the Milwaukee Police Department's choice of Avaya Communications, Ridgewood would work with Avaya Communications personnel in designing a system that would be the optimal system for the City into the future. City employees worked with Ridgewood personnel to configure the number of telephones and circuits needed for a new system, types of sets desired, and features necessary for best functionality. Total cost was factored into the configuration as well to arrive at the optimum solution. It should be noted here that this is in no way a final configuration of the system the City will ultimately acquire. This configuration is being used to arrive at budgetary figures.

For the purpose of determining a cost for the vendor-premises solution, Ridgewood used figures supplied by the City Telecommunications personnel for Centrex lines and costs from the State of Wisconsin Centrex tariff with Ameritech. All pricing and configuration supplied by Avaya Communications in this report are provided solely for the benefit of the City of Milwaukee, and all information contained within this report are to be held in confidence by the City and Ridgewood.



## Rationale

The rationale most businesses and state and local governments are using for investing into more modern technology that today's PBXs offer is as follows:

- Better alignment with user departments business objectives, supporting many classes of service
- More flexibility in network design, construction, and implementation
- Better control of Information Technology costs associated with users or projects
- A rational means to apply network management principles, tools and personnel
- "Best Of Class" Technology choices to be made
- Reduced Cost of Ownership
- Smaller footprint of the hardware, thus reducing environmental expenditures

Other Municipalities using the same Avaya technology that we have used for the purposes of this study include but are not limited to:

Alameda County  
St. Louis County  
San Diego City and County  
Monroe County  
Fond du lac City and County  
San Francisco City and County  
City of Indianapolis  
City of Cincinnati  
City of San Antonio  
City of Mobile  
City of Houston  
City of Costa Mesa  
City of Austin  
City of Milwaukee Police Department  
Milwaukee Metropolitan Sewerage District

Other business in the greater Milwaukee area using the same Avaya technology that we have used for the purposes of this study include but are not limited to:

Brady Corporation  
Banc One  
Rockwell Automation  
Fortis Insurance  
The Kohler Company  
Green Bay Packers

The vast majority of these municipalities and private companies have decided to do the outright purchase option (Scenario 1) as a method of acquisition of these systems.

## Scope & Benefits

The scope of this project is physically limited to the replacement of the current Rolm 9004 PBX with five (5) nodes serving the City Hall, Municipal Building, Pabst Theatre, 809 Building, FMIS and ERS locations; a sixth node serving the Main Library, Municipal Court, Wisconsin Correctional Services, Fire Department Administration and the City Attorney's office; a seventh node serving the Hills Building, the Meter Shop, and Johnston Health Center; and finally an eighth node serving the Canal Street Shop, Central Garage, and the BFD Field Office. This study will also look into a replacement of the key systems now serving the outlying offices of the Department of City Development, Department of Public Works, Libraries, and Port offices.

The project will deliver:

- A detailed cost estimate and recommended option of acquiring a new phone system
- A breakdown of purchase vs. leasing from a vendor
- A recommendation of self-maintenance vs. vendor maintenance of the telephony equipment, which will allow the City to do its own departmental billing, its own moves, adds, and changes (MACs), and have one centralized database of the entire system.

The project will not deliver:

- Any cost estimate in conjunction with the Police, Fire, and 911 systems
- A detailed Request for Proposal (RFP) to be delivered to PBX vendors for a price/service agreement for the City's administrative system
- A recommendation of which vendor is the best alternative for the City from which to purchase a system

The benefits of a new PBX for the administrative offices are many.

- Leveraging of the City owned SONET network for voice transport
- Correct identification of a placed 911 call. (In today's environment if someone placed a 911 call from a remote location that was served by off premises extensions from the 809 N. Broadway Building, the 911 system would think the call was coming from the 809 Building).
- Platform for call management and Customer Relationship Management software
- CTI (computer Telephony Interface) integration for customer service integration
- Central call processing for a site with fewer than twenty users allows for reduced equipment requirements and eliminates the need for on-site administration.
- Distributed call processing for a site with greater than twenty users provides the same level of features and capabilities.
- A much smaller footprint, (4) cabinets compared to the (16) cabinets installed today. It does need to be noted that at the (18) remote shelf sites, there will be an increase in footprint compared with the key systems currently installed. Each of these sites is a single carrier site.
- Elimination of the battery back-up system currently supporting the Rolm 9004 PBX.

- Provide flexibility and cost savings by means of new technologies, i.e., automatic number identification (ANI) capabilities.
- Streamline the routing of calls through the introduction of automatic call distribution ensures that the City's customers reach their appropriate resource.
- Standardized switch programming that will create order, and reduce time and cost associated with resolving support issues.
- Allow for integration with a wider range of third-party products, i.e., voice mail systems and facsimile (FAX) servers.
- All features described in this report are included in the cost estimate.

## Schedule

The highly modular design of this state of the art PBX system will allow the City to convert to a new system in phases. This will help not only in freeing up needed personnel at conversion time, but will greatly reduce the expense in converting the existing Telephone Equipment Room, and the remote sites. The modularity of the newer systems also allows the City the convenience of plugging in the key systems that they currently are using at the remote sites into the new system and replace those key systems using a scheduled implementation plan.

Due to the competitive nature of the communications industry, Avaya Communications has kept the exact configuration of the PBX confidential, and as it is not included as a part of this report. That configuration may be examined if need be. Exact costing will be obtained upon determination of the 2002 City budget and the further approval of the PBX replacement project. The estimate detail accompanies this document in Appendix A.

Assumptions made in cost estimates are:

- Purchase and labor estimates for station wiring are not included in this document and are assumed to be reusable. Cross connection of the existing wiring is included in the Avaya solution.
- All installation costing assumes work will be outsourced to the appropriate vendor.
- Pricing for system is from one vendor. It is assumed that this is a "worst case" scenario. In other words, if Avaya can supply the City with a workable system within the budgetary constraints listed, that others should be able to meet or better that price.
- Salary and fringe benefits for City employed technicians are \$44.00 per in 2001 and a 5% increase per year is assumed.
- Vendor maintenance costs are included in this report and an industry standard 5% annual increase is assumed.
- Equipment room air conditioning costs will be reduced by \$43,200 annually due to a smaller footprint of a new PBX and less cooling requirements of state of the art technology.
- The existing battery back-up system will be replaced by a much smaller Uninterruptible Power Supply system that is included in the quote given by Avaya Communications. This will entirely free up the room currently housing the battery back-up system.
- The existing maintenance agreement with Norstan Communications for emergency response to a catastrophic condition on the Rolm 9004 PBX will be eliminated at an annual savings of \$79,000.
- Studies have proven that station reconfigurations can be accomplished in a much shorter time based upon new system administration functionality.
- The City Technicians are currently performing between 1000 – 1200 station reconfigurations per year. For the purposes of this study, we are calculating 1100 annual changes at one (1) hour per change.

## 15-Year Analysis

15 Year Scenarios	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Total Costs</b>	<b>Purchased &amp; Maintained by City on City Premises</b>	<b>Leased from Vendor, Maintained by City on City Premises</b>	<b>Leased and Maintained by Vendor on City Premises</b>	<b>Leased &amp; Maintained by vendor on vendor premises (Centrex)</b>
Total Purchase Price	\$4,961,800	\$4,961,800	\$4,961,800	N/A
Total Vendor Installation Cost	Included Above	Included Above	Included Above	\$1,316,000.00
Battery Back-up Purchase	Included Above	Included Above	Included Above	N/A
Total One-Time Charges	\$4,961,800 Basis for borrowing	\$4,961,800 Basis for Lease	\$4,961,800 Basis for Lease	\$1,316,000.00
Annual Lease Costs	\$1,096,101.36*	\$1,071,360.00 Yrs 1 – 5 \$476,332.80 Yrs 6 - 10	\$1,071,360.00 Yrs 1 – 5 \$476,332.80 Yrs 6 - 10	\$1,314,000.00
Annual Maintenance Costs**	\$181,558.00** Includes City employee costs for 1100 hours and vendor RMATS maintenance.	\$181,558.00** Includes City employee costs for 1100 hours and vendor RMATS maintenance.	\$329,969.04** Includes vendor maintenance contract for 8:00 – 5:00 Monday thru Friday coverage.	\$215,584.95** Assumes 1100 hours of vendor maintenance required per year at \$150 per hour in year one (1) and a 5% annual rate increase
Annual environmental savings	(\$49,208.61)	(\$49,208.61)	(\$49,208.61)	(\$54,676.24)
Current Vendor Annual Maintenance Savings	(\$79,000)	(\$79,000)	(\$79,000)	(\$79,000)
Annual Power Back-up Costs Savings	(\$8,000)	(\$8,000)	(\$8,000)	(\$8,000)
15 Year System Life Cost	\$6,347,747.66*	\$8,605,704.86	\$10,731,870.44	\$22,221,630.72

\* Assumes City does an outright purchase from the vendor, using a five (5) year note at a 4% annual percentage rate.

\*\* Average annual maintenance costs over fifteen (15) year product life.

The residual value, after Five (5) years, is based on the average of 18% – 38%, with 28% selected.

## 5-Year Analysis

5 Year Scenarios	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Total Costs</b>	<b>Purchased &amp; Maintained by City on City Premises</b>	<b>Leased from Vendor, Maintained by City on City Premises</b>	<b>Leased and Maintained by Vendor on City Premises</b>	<b>Leased &amp; Maintained by vendor on vendor premises (Centrex)</b>
Total Purchase Price	\$4,961,800	\$4,961,800	\$4,961,800	N/A
Total Vendor Installation Cost	Included Above	Included Above	Included Above	\$1,316,000.00
Battery Back-up Purchase	Included Above	Included Above	Included Above	N/A
Total One-Time Charges	\$4,961,800 Basis for borrowing	\$4,961,800 Basis for Lease	\$4,961,800 Basis for Lease	\$1,316,000.00
Annual Lease Costs	\$1,096,101.36*	\$1,071,360.00	\$1,071,360.00	\$1,314,000.00
Residual Value of Equipment	\$1,389,304.00**	N/A	N/A	N/A
Annual Maintenance Costs**	\$137,962.71*** Includes City employee costs for 1100 hours and vendor RMATS maintenance.	\$137,962.71*** Includes City employee costs for 1100 hours and vendor RMATS maintenance.	\$249,001.92*** Includes vendor maintenance contract for 8:00 – 5:00 Monday thru Friday coverage.	\$142,234.13*** Assumes 1100 hours of vendor maintenance required per year at \$150 per hour in year one (1) and a 5% annual rate increase
Annual environmental savings	(\$49,208.61)	(\$49,208.61)	(\$49,208.61)	(\$54,676.24)
Current Vendor Annual Maintenance Savings	(\$79,000)	(\$79,000)	(\$79,000)	(\$79,000)
Annual Power Back-up Costs Savings	(\$8,000)	(\$8,000)	(\$8,000)	(\$8,000)
15 Year System Life Cost	\$4,352,283.66*	\$5,617,880.86	\$6,073,076.91	\$8,048,356.53

\* Assumes City does an outright purchase from the vendor, using a five (5) year note at a 4% annual percentage rate.

\*\* Assumes a 28% residual value of the equipment at the end of the 5-year term. Industry sources indicate that like equipment would have an 18% - 38% residual value at that time. We used the average for the purposes of this study.

\*\*\* Average annual maintenance costs over five (5) year product life.



## Appendix A – Detailed Materials and Telephone Descriptions

All equipment prices were obtained with the assistance of Avaya Communications and using their System Configuration tool. For the purposes of this study the existing Rolm 9004 Telephone System would be replaced with an Avaya Definity G3R system utilizing four (4) cabinets in the 809 N. Broadway Building and eighteen (18) Remote Shelves throughout the City, replacing off premises nodes. The current Voice Mail System (VMS), will be replaced with an Avaya Intuity system with 36 ports and 4400 voice mail boxes, and the existing Automatic Call Distribution (ACD) system will be replaced with an Avaya Call Management System (CMS) using Call Management Deluxe features and equipped for 200 agents. Also, the current battery back-up configuration has been replaced with an On-line Power Conditioning system, which produces a stream of clean power to the exact specifications required by the systems.

Details of the configuration included in the pricing are as follows:

### Definity G3R Processor

Four (4) cabinets at main site Equipment Room

Eighteen (18) Remote Shelves

Intuity Unified Messaging System w/ 4400 mailboxes and 36 ports

Call Management System with Call Center Deluxe Features and 200 Agents

On-line Power Conditioning

5100 Cross Connect Charges (Assumes a re-use of existing Cross Connects, and City tone/tag & test))

Overtime expenses for re-use of existing cross connects for the 809 North Broadway location

(668) Model 6416 Digital Display Phones with 2-way speakerphone

(1672) Model 6408 Digital Display Phones with 2-way speakerphone

(1460) Model 6402 Digital Display Phones with group listen speaker

(1300) Analog Ports (for modem and fax machine connections)

Circuit cards for the existing (13) T1.5 circuits, (61) Central Office facilities and (6) Tie Lines

## Telephone Descriptions

### DEFINITY® 6400 Digital Telephones

Avaya Communications new family of digital telephones, the 6400 series, was designed in response to input from customers. With their sleek, international styling, these digital phones are designed to be at home all over the world, in any type of business environment. Available in a choice of languages, they are specifically designed to meet global connectivity requirements.

The 6400 series phones are designed to complement any two-wire environment DEFINITY System Release 6 or newer.

Each 6400 set is available in white or dark gray. In addition to a Speaker, Mute (feature on 6402 models), and Volume key, each set has four fixed-feature buttons, including Conference, Transfer, Hold, and Last Number Dialed. 6400 telephones equipped with a display (except 6402D) benefit from "Softkeys" that make it easy to program and access system features. The 6400 telephones also allow for one-touch operation with headsets so you can answer, hang up, and dial without having to pick up the handset.

In addition, each telephone has the following features:

- A pull out instruction card
- Message Waiting Light
- Adjustable Volume controls for handset, speaker, and ringer
- Hearing Aid Compatible
- Wall mountable
- Choice of 8 ringing patterns
- Time & Date on Display sets
- Ability to convert 2-way speakerphones to Group Listen Only

The 6416D+M and the 6424D+M telephone sets provide a built-in slot that allows you to integrate application modules into the telephones for more functionality. For example, with a 100A Analog Interface Module you can plug an analog fax machine, modem or full-duplex SoundPoint speakerphone directly into your 6416D+M or 6424D+M telephone. Additional modules are planned for the future, to offer more options and protect your investment.

The 6416D+M and 6424D+M also include a built-in headset jack, eliminating the need for headset adapters, in turn, reducing the costs and eliminating desktop clutter.

### **6416D+M with Display**

- 16 Programmable line/feature buttons
- 2 Way Speakerphone
- 2 line x 24 character LCD Display
- 6 Fixed Feature Buttons
- 12 "SoftKey" Feature Buttons
- Optional 24 line/button expansion module
- Built-in Headset Jack
- Application Module Ready

### **6408D+ with Display**

- 8 Programmable line/feature buttons
- 2 Way Speakerphone
- 2 line x 24 character LCD Display
- 6 Fixed Feature Buttons
- 12 "SoftKey" Feature Buttons

### **6402D with Display**

- Single Line
- Group Listen Speaker
- 6 Fixed Feature Buttons including "Feature" to access 12 systems features via the dial pad
- 2 line x 16 character LCD display

## Appendix B - Vendor Leasing Options

July 17, 2001

City of Milwaukee  
Attn: Kevin Roche

Re: Financing Proposal

Dear Mr. Roche:

Avaya Financial Services is pleased to submit this proposal based on our understanding of your financial requirements. Any changes to these terms, conditions, and assumptions may alter the proposed financing.

In addition to the low rates offered we can also include the following benefits:

1. Sellers 50% progress payment funding
2. Advance Funding (Escrow Account, see page 2)
3. Match the useful technology life to the financing term
4. Tech Refresh available prior to the end of the term, True Lease Option.  
Part or all of the system can be replaced, traded in and upgraded to the most recent version before the end of the term.
5. 100% of project costs included in the financing including software, wiring, installation & training.
6. Non Appropriation Clause
7. Prepaid Maintenance and Services can be rolled into the package

We offer a full range of acquisition alternatives. I look forward to working to develop a complete package to meet both current and long term financial needs.

Lessor Avaya Financial Services or It's Assignee

Lessee City of Milwaukee

Equipment Definity Solution

Equipment Costs \$4,961,800.00

Finance Option 1 *State and Local Government "True Lease"*. Lessor will retain title to the equipment during the term of the contract. At the end of the original lease term, the Lessee will have the option to: 1.) continue to lease the equipment in subsequent years at the then Fair Market Value Rental; 2.) purchase the equipment at its then Fair Market Value; or 3.) return the equipment to the Lessor in conformance with the contract for no further obligation.

Lease Offer

Total Term	APR	Structured Payments
60 Months	2.77%	6 at 0 54 at \$99,200

Finance Option 2

*Tax Exempt Lease Purchase* with lease payments made monthly in arrears. Financing rates are similar in nature and treatment to those rates obtained through bond issues. In addition, the "tax-exempt" lease purchase program is subject to annual appropriation of funds, and therefore, generally does not require voter approval.

Lease Offer

Total Term	APR	Structured Payments
60 Months	4.93%	6 at 0 54 at \$105,198

**Advance Funding Financing Concept:**

Avaya Financial Services would also like to introduce our Advance Funding Financing Concept, more commonly referred to as Escrow Funding (Available for the tax-exempt lease purchase only).

In a situation where the installation and acceptance cycle of a tax-exempt lease purchase transaction will be of considerable length or involve multiple phases, a somewhat different approach should be considered. The traditional lease purchase transaction is designed to accommodate short-term installation and acceptance cycles, generally within 30 to 90 days. In larger, complex projects, where installation will take place over a longer time period, the concept of escrow funding is a viable alternative.

In an escrow funded lease purchase transaction, the money needed to pay for the project is borrowed up front from the Lessor and deposited into an interest bearing escrow account until it is needed for disbursement. Interest accumulated in this account is then used to defray the interest cost associated with the loan from the Lessor, therefore reducing some of the cost associated with the arrangement. At the direction of the Lessee, disbursements are made by the escrow agent, generally a bank, to the vendor as needed to pay for the equipment installed and certified operational. This process continues until all of the funds are disbursed. The moneys can be retained in the escrow account for up to three (3) years. If additional time is needed, the remaining balance of the fund can be rolled over for increments of one (1) year at a time. Costs associated with the escrow agent can either be paid by the Lessee or capitalized into the cost of the system and paid from the escrow proceeds.

The main benefit of the escrow account as opposed to the standard financing approach is simply, a matter of cost. In the conventional lease purchase arrangement, locking in the interest rate for a period greater than 30 to 60 days is generally cost prohibitive. With the escrow funded lease purchase transaction, the interest rate charged is locked for the duration of the lease term, using today's cost of funds, at the time the money is deposited into the escrow account producing a lower interest charge. In addition, the interest income earned on the escrow account is the Lessee's offsetting the interest charged on the Lease.

## Proposal Assumptions

Commencement Date	2/2002 This date will start the escrow account funding, require commitments from the lessee, include progress payment funding to the seller through 2002 and June 2003.
Proposal Expiration	This proposal expires if not accepted <u>within</u> 30 days after the date hereof.
Rate Adjustment	The Rates quoted in this proposal are fixed for thirty days. Thereafter, the rates will float up with the 5 Year Treasury Note Asked Yield (4.90% as of July 16, 2001), trading closest to par as quoted in the <u>Wall Street Journal</u> , until such time as an Equipment Schedule is established and accepted.
Tax-Exempt Obligation	The tax-exempt installment sale rate quoted above is based upon Lessee qualifying as a tax-exempt obligation as described in Section 103 of the Internal Revenue Code of 1986, as amended. Lessee will be required to use the equipment in a manner, and do things necessary, so that the interest portion of the financing payments interest shall not become subject to Federal income taxation.
Legal Opinion	Lessee will be required to provide an attorney's opinion for this agreement to certify, among other things, that the agreement has been duly authorized, executed, delivered, and that it constitutes a legal, valid, and binding obligation in accordance with its terms. In addition Lessor may require a separate tax opinion from a Red Book bond counsel.
Non-Appropriation	The financing or lease will be subject to termination in subsequent fiscal years if sufficient funds are not appropriated and budgeted or are not otherwise available to continue making payments for the equipment or other services performing similar functions and services.
Title	Under the tax-exempt lease purchase arrangement, title will usually be in Lessee's name with Lessor retaining a security interest in the equipment. Under the true lease structure, title will remain with Lessor during the term of the lease.
Other Costs	Lessee shall be responsible for taxes (if required), maintenance, and insurance.
Basis of Proposal	This proposal should not be construed as a commitment by Avaya Financial Services. Such a commitment requires formal credit review and approval by Avaya Financial Services and the execution of a mutually acceptable lease agreement and other related documents. The rates quoted are for systems to be delivered into 2003 and should be considered example rates as if the transaction were executed today. Firm rates for technology two years in

advance is not possible without more discussion with the lessee. The lease agreement and other related documents, not this proposal, will set forth the agreement between the parties.

If the general terms and conditions of this proposal are acceptable, please sign and return the enclosed copy designating the term desired, along with: (1) a copy of your audited statements for the most recent two fiscal years, (2) a copy of your Avaya Product Agreement.

Avaya Financial Services welcomes the opportunity to offer this service, I urge you to contact me promptly for clarification of any provisions of this proposal.

Sincerely,

The general terms and conditions of this proposal are accepted and agreed to this \_\_\_\_\_ day of \_\_\_\_\_, 2001.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## Re Tax Exempt Financing, True Lease and Tech Refresh Benefits – City of Milwaukee

Below find a list of ideas and benefits associated with Avaya Financial Services programs that support City and County institutions.

### Benefits include:

1. Low cost financing, the Installment Sale competitive with the cost of bond issues. True leases offer lower rates than bond issues and offer more flexibility. Match and manage the budget to the useful life.
2. Less paperwork than a bond issue and less costly up front fees.
3. Includes 100% of projects costs.
4. Includes the non-appropriation or "funding out" clause necessary for contracts that are longer than the fiscal year
5. Match the term of the financing with the useful life, this isn't possible with a long term bond issue. This is a very big issue because many schools and municipalities are still paying for systems that are obsolete and not supported by the manufacturer, i.e. 15 years. It's like long term financing for the gas in your car.
6. Upgrades (take out old and put in new) are available during the term of the financing
7. Special "TechRefresh" leases are available where equipment no longer needed can be replaced with new and the final annual payment is forgiven
8. Waiver of the sellers progress payments
9. Customize the financing to the application. For example- five-year terms for the base system and a three year term for other applications. Seven year for wire.
10. Use of an Escrow Fund to earn interest for the school district/municipality from the day the commitment is completed. This interest is earned up to the final commencement of the lease. Dependent upon the size of the award and the length of time between commitment to final project completion, a lot of money can be earned.
11. Master lease arrangement to allow additions and changes throughout the length of the lease by each location and technology type.
12. More choices in the future using low True Lease rates on whether to upgrade and extend or return the technology.

This document is considered confidential information by Avaya Financial Services.



# Appendix C - Population Estimates

The following spreadsheet was used in determining the types of telephone instruments used in the configuration and the exact location throughout the City and numbers of instruments at each location.

Department	Name	Address	Remote Shelf	Current	Phone No.	# Instrument
Building Inspection	Tool Loan by NHS - Neighborhood Housing Services - under Block Grant -- Al Garcia 5566	2500 W. Capitol Dr		Leased out -- no city equipment	449-9705	
DCD	Arlington Court - Public Housing Development	1633 N. Arlington Pl		Panasonic KX-TA624	8850	12
DCD	Becher Court	1800 W. Becher St		Panasonic KX-TA624	8851	12
DCD	Berryland	6089 N. 42nd St		Panasonic KX-TA624	8852	12
DCD	Cherry Court	1525 N 24th St		Panasonic KX-TA624	8853	12
DCD	College Court	3334 W. Highland Blvd		Panasonic KX-TA624	8854	12
DCD	Convent Hill	1325 N. Jefferson St		Panasonic KX-TA624	8855	12
DCD	Highland Park	1275 N. 17th St		Panasonic KX-TA624	8856	12
DCD	Highland Park Resident Liaison	1240 N. 20th St		Single Line Analog		1
DCD	Hillside (Boy's Club)	1450 N. 6th Pl		Panasonic KX-T61610 - Shared	291-0347	8
DCD	Hillside Resource Center	1452 N. 7th St		Panasonic KX-T61610 - Shared	224-8815	shared
DCD	Hillside Terrace / Hillside URD Ofc / Tower Satellite	1545 N. 7th St		Panasonic KX-T61610		8
DCD	Hillside Terrace Maintenance - old - vacant - Census People	1441 N. 7th St		None		
DCD	Hillside Terrace Ofc & Maintenance - new (1445 N. 8th St ?)	1419 N. 8th St		Panasonic KX-T61610	8857	8
DCD	Holton Terrace	2825 N. Holton St		Panasonic KX-TA624	8858	12
DCD	Lapham Park	1901 N. 6th St		Panasonic KX-TA624	8859	12
DCD	Lapham Park Community Center	650 W. Reservoir Ave	Remote Shelf	Isotec 228 ACPU W/8.0 Eclipse Software	2177	100
DCD	Lincoln Court	2325 S. Howell Ave		Panasonic KX-TA624	8860	12
DCD	Locust Court	1350 E. Locust St		Panasonic KX-TA624	8861	12
DCD	Merrill Park	222 N. 33rd St		Panasonic KX-TA624	8862	12
DCD	Mitchell Court	2600 W. National Ave		Panasonic KX-TA624	8863	12
DCD	Northlawn	5145 N. 20th St		Panasonic KX-TA624	8864	12
DCD	Parklawn	4434 W. Marion St		Panasonic KX-T61610	8865	8
DCD	Parklawn & Parklawn URD Office	4434 W. Marion St		Panasonic KX-T61610	442-8401	8
DCD	Parklawn Construction Ofc	4233 N. Sherman Blvd		Panasonic KX-T61610	447-9640	8
DCD	Parklawn Resident Liaison	4450 W. Congress St		Panasonic KX-T61610	871-4000	1
DCD	Riverview	1300 E. Kane Pl		Single Line Analog		12
DCD	Scattered Sites / Field Support Etc.	5011 W. Lisbon Ave	Remote Shelf	Panasonic KX-TA624	8866	12
DCD	Southlawn	3350 S. 25th St		Isotec 228 ACPU W/8.0 Eclipse Software	8534	200***
DCD	Warehouse	5125 W. Lisbon Ave	w/ 5011 W. Lisbon	Panasonic KX-TA624	8867	12
DCD	Westlawn	6301 W. Sheridan Ave		Panasonic KX-TD1232-2 - Double	2936	***
DCD	Westlawn Resident Liaison & Maintenance	5460 N. 64th St		TIE 6/12	8868	6
				TIE 6/12	871-4000	6

DNS	Lake Tower	4001 S. 6th St	Remote Shelf	Single Line Analog	200
DPW - Admin - Parking	Tow Lot	3811 W. Lincoln Ave	350 can cover 725 W. Howard & some other buildings Nortel Meridian M9417 CW analog 2 line		15
DPW - BFD - Bridge	Michigan St Bridge	100 W. Michigan St	TIE 6/12		6
DPW - BFD - Comm Shop	Comm Shop - Test Equipment	1440 W. Canal St	Isoetec 96		1
DPW - BFD - Comm Shop	Comm Shop - Test Equipment	1440 W. Canal St	Isoetec 228 ACPU W/8.0 Eclipse Software		1
DPW - BFD - Comm Shop	Comm Shop - Test Equipment	1440 W. Canal St	Panasonic KX-T61610		1
DPW - BFD - Comm Shop	Comm Shop - Test Equipment	1440 W. Canal St	Panasonic KX-TD1232-2		1
DPW - BFD - Comm Shop	Comm Shop - Test Equipment	1440 W. Canal St	TIE 6/12		1
DPW - BFD - Comm Shop	PAB Sub Basement Cable Rm	749 W. State St	Stromberg-Carlson		3
DPW - BFD - Fleet	Lincoln Garage	3921 W. Lincoln Ave	Panasonic KX-TA624		12
DPW - BFD - Fleet	Northwest Garage	3025 W. Ruby Ave	Panasonic KX-T61610		8
DPW - BFD - Fleet	Southwest Shop	2657 S. 31st St	Panasonic KX-T61610		8
DPW - Forestry	Central District	5230 W. State St	Panasonic KX-TD1232-2 - Double		64
DPW - Forestry	North District	6732 N. Industrial Rd	Panasonic KX-TD1232-2 - Shared		32
DPW - Forestry	South District	2024 W. Holt Ave	Panasonic KX-TD1232		32
DPW - IN - Engineers	North District Design & Construction	8424 W. Florist Ave	Panasonic KX-TD1232-2 - Double - Shared		shared
DPW - IN - SSM	Northwest Yard	8414 W. Florist Ave	w/ 8424 W. Florist		3786
DPW - Sanitation	Cart & Utility Shop	1912 W. Pierce St	Panasonic KX-TA624		12
DPW - Sanitation	Central Area I	1345 N. 33rd St	Analog Phones		2
DPW - Sanitation	Central Area II	1600 N. 14th St	Panasonic KX-T61610		8
DPW - Sanitation	North Area I	6732 N. Industrial Rd	w/ Forestry 6732 N. Industrial Rd		shared
DPW - Sanitation	North Area II	2931 W. Cameron Ave	Panasonic KX-T61610		8
DPW - Sanitation	Salt Storage	7222 W. Fond du Lac Ave	Nortel Meridian M9417 CW analog 2 line		3
DPW - Sanitation	South Area I	2363 S. 35th St	Panasonic KX-T61610		8
DPW - Sanitation	South Area II	4031 S. 6th St	Panasonic KX-T61610		8
DPW - Water	Control Center, for Water Lines	841 N. Broadway, Rm 405	Analog Phones		6
DPW - Water	Howard	725 W. Howard Ave	w/ DNS 4001 S. 6th		3710
			Panasonic KX-TD1232-2 - Double		64
					0083-4355 or
					2890

DPW - Water	Meter Shop	1901 S. Kinnickinnic Ave	Remote Shelf	Rollm Phones	2865	20
DPW - Water	Linnwood	3000 N. Lincoln Memorial Dr	Remote Shelf	Panasonic KX-TD1232-2 - Double	2880	64
DPW - Water	North District, Cameron Yard	2919 W. Cameron St	Remote Shelf	Panasonic KX-TD1232-2	2870	32
DPW - Water	Riverside	1311 E. Chambers St	Remote Shelf	Panasonic KX-TD1232-2	2884	32
DPW - Water	South District, Lincoln Yard	3801 W. Lincoln Ave	Remote Shelf	Panasonic KX-TD1232-2	2875	32

EGA	Emergency Government - CH Basement	200 E. Wells St		Stromberg-Carlson		6
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<u>Department</u>	<u>Name</u>	<u>Address</u>		<u>Current</u>	<u>Main</u>	
Fire	EH 1	784 N. Broadway		TIE 6/12	0083-8901	6
Fire	EH 2 / 20	755 N. James Lovell St		TIE 6/12	0083-8902	6
Fire	EH 3	100 W. Virginia St		TIE 6/12	0083-8903	6
Fire	EH 4	9511 W. Appleton Ave		TIE 6/12	0083-8904	6
Fire	EH 5	1313 W. Reservoir Ave		TIE 6/12	0083-8905	6
Fire	EH 6	1693 N. Franklin Pl		TIE 6/12	0083-8906	6
Fire	EH 7	3174 S. Chase Ave		TIE 6/12	0083-8907	6
Fire	EH 8	5585 N. 69th St		TIE 6/12	0083-8908	6
Fire	EH 9	4141 W. Mill Rd		TIE 6/12	0083-8909	6
Fire	EH 10	5600 W. Oklahoma Ave		TIE 6/12	0083-8910	6
Fire	EH 11	2526 S. Kinnickinnic Ave		TIE 6/12	0083-8911	6
Fire	EH 12	1400 S. 9th St		TIE 6/12	0083-8912	6
Fire	EH 13	2901 N. 30th St		TIE 6/12	0083-8913	6
Fire	EH 14	6074 S. 13th St		TIE 6/12	0083-8914	6
Fire	EH 16	10320 W. Fond du Lac Ave		TIE 6/12	0083-8916	6
Fire	EH 17	4653 S. 13th St		TIE 6/12	0083-8917	6
Fire	EH 18	3628 N. Holton St		TIE 6/12	0083-8918	6
Fire	EH 21	2050 N. Palmer St		TIE 6/12	0083-8921	6
Fire	EH 22	8814 W. Lisbon Ave		TIE 6/12	0083-8922	6
Fire	EH 23 - new	2130 W. Oklahoma Ave		TIE 6/12	0083-8923	6
Fire	EH 23 - old, now Fire Museum	1615 W. Oklahoma Ave		Single Line Analog		1
Fire	EH 24	4927 W. Fiebrantz Ave		TIE 6/12	0083-8924	6
Fire	EH 25	300 S. 84th St		TIE 6/12	0083-8925	6
Fire	EH 26	1140 S. 26th St		TIE 6/12	0083-8926	6
Fire	EH 27	2647 N. Bartlett Ave		TIE 6/12	0083-8927	6
Fire	EH 28	424 N. 30th St		TIE 6/12	0083-8928	6
Fire	EH 29	3529 S. 84th St		TIE 6/12	0083-8929	6
Fire	EH 30	2903 N. Teutonia Ave		TIE 6/12	0083-8930	6
Fire	EH 31	2400 S. 8th St		TIE 6/12	0083-8931	6
Fire	EH 32	1551 N. 30th St		TIE 6/12	0083-8932	6
Fire	EH 33	4515 W. Burnham St		TIE 6/12	0083-8933	6

Fire	EH 34	6205 W. Burleigh St	Remote Shelf	TIE 6/12	0083-8934	6
Fire	EH 35 - new	100 N. 64th St		Panasonic KX-T61610	0083-8935	8
Fire	EH 35 - old	407 N. Hawley Rd		None		0
Fire	EH 36 - new	4060 N. 27th St		TIE 6/12	0083-8936	6
Fire	EH 36 - old	2509 W. Capitol Dr		None		0
Fire	EH 37	5335 N. Teutonia Ave		TIE 6/12	0083-8937	6
Fire	EH 38	8463 N. Granville Rd		TIE 6/12	0083-8938	6
Fire	EH 39	8025 W. Bradley Rd		TIE 6/12	0083-8939	6
Fire	Repair Shop	118 W. Virginia St	Remote Shelf	Panasonic KX-TD1232-2	0083-8976	Police Bid
Fire	Training Academy - Bureau of Instruction and Training	6680 N. Teutonia Av		RoIm 9751 Model 10 - Shared	0083-8970	Police Bid
Fire	Administration Offices	711 W. Wells St		RoIm 9004 Switch - PAB Node 3	0083-8948	Police Bid
Fire	Fire Communications Section (Dispatch)	749 W. State St		RoIm 9004 Switch - PAB Node 3	0083-8999	Police Bid
Health	Coggs Health Center	2770 N. 5th St	Remote Shelf	Isoetec 228 ACPU W/8.0 Eclipse Software	8880	171
Health	Johnston Health Center	1230 W. Grant St	w/ Water 1901 S. Isoetec 228 ACPU W/8.0 Eclipse Software		8890	76
Health	Johnston Health Center	1230 W. Grant St	KK	RoIm Phones	8890	70
Health	Keenan Health Center	3200 N. 36th St	Remote Shelf	Isoetec 228 ACPU W/8.0 Eclipse Software	8840	76
Health	Northwest Health Center	7630 N. Mill Rd	Remote Shelf	Isoetec 228 ACPU W/8.0 Eclipse Software	8830	76
Health	South Side Health Center	1639 S. 23rd St	Remote Shelf	Isoetec 96	8620	32
Library	Atkinson	1960 W. Atkinson Ave		Panasonic KX-T61610	3068	8
Library	Bay View	2566 S. Kinnickinnic Ave		Panasonic KX-T61610	3019	8
Library	Capitol	7413 W. Capitol Dr		Panasonic KX-T61610	3006	8
Library	Center Street	2727 W. Fond du Lac Ave		Panasonic KX-T61610	3090	8
Library	East	1910 E. North Ave		Panasonic KX-T61610	3058	8
Library	Finney	4243 W. North Ave		Panasonic KX-T61610	3066	8
Library	Forest Home	1432 W. Forest Home Ave		Panasonic KX-T61610	3083	8
Library	King, Martin Luther	310 W. Locust St		Panasonic KX-T61610	3098	8
Library	Mill Road	6431 N. 76th St		Panasonic KX-T61610	3088	8
Library	Tippecanoe	3912 S. Howell Ave		Panasonic KX-T61610	3085	8
Library	Villard Avenue	3310 W. Villard Ave		Panasonic KX-T61610	3079	8
Library	Zablocki	3501 W. Oklahoma Ave		Panasonic KX-T61610	3055	8
Police	Academy	6680 N. Teutonia Ave		RoIm 9751 Model 10 - Shared	0083-7960	Police Bid
Police	District 2	245 W. Lincoln Ave		Isoetec 96/120	0083-7222	Police Bid
Police	District 3	4715 W. Vliet St		Isoetec 96/120	0083-7232	Police Bid
Police	District 4	6929 W. Silver Spring Dr		Isoetec 96	0083-7242	Police Bid
Police	District 5	2920 N. 4th St		Isoetec 96/120	0083-7252	Police Bid
Police	District 6	3006 S. 27th St		Isoetec 96/120	0083-7262	Police Bid
Police	District 7	3636 W. Fond du Lac Ave		Isoetec 96/120	0083-7272	Police Bid
Police	Police Evidence Storage Facility	2620 W. Wisconsin Ave		Nortel Meridian M9417 CW analog 2 line	0083-7549	Police Bid

Police	Avenues West - Weed & Seed	2100 W. Wells St	Single Line Analog	0083-7231	Police Bid
Port	Dock Office	1225 S. Carberry Dr	Leased out -- no city equipment		
Port	General Office	2323 S. Lincoln Memorial Dr	Comdial 2000, 20/44, E80PT	3511	60
Port	Old General Office	500 N. Harbor Dr	Leased out -- no city equipment		

Total remote 1300

**Roim Phone Locations -- not included in Summary Totals**

<u>Department</u>	<u>Name</u>	<u>Address</u>	<u>Current</u>		
Various	Municipal Building	841 N. Broadway	Roim 9004 Switch - Nodes 1 - 5		
Various	809 Building	809 N. Broadway	Roim 9004 Switch - Nodes 1 - 5	Main Switch Location	Switch Location
Various	City Hall	200 E. Wells St	Roim 9004 Switch - Nodes 1 - 5		
PABS	Pabst Theater	144 E. Wells St	Roim 9004 Switch - Nodes 1 - 5		
COMP	FMIS / 1000 N. Water	1000 N. Water St	Roim 9004 Switch - Nodes 1 - 5		
ERS	ERS	735 N. Water St	Roim 9004 Switch - Nodes 1 - 5		
LIBR	Central Library	814 W. Wisconsin Ave	Roim 9004 Switch - Node 6	Remote Shelf	Switch Location
MUNI	Municipal Court	951 N. James Lovell St	Roim 9004 Switch - Node 6		
WCS	Wisconsin Correctional Services	951 N. James Lovell St	Roim 9004 Switch - Node 6		
Fire	Fire Admin. - Emergency Backup Dispatch	711 W. Wells St	Roim 9004 Switch - Node 6		
ATOR	City Attorney - Prosecution Division	749 W. State St	Roim 9004 Switch - Node 6		
DNS	Hillis Building	1673 S. 9th St	w/ Water 1901 S. Roim 9004 Switch - Node 7	KK	Switch Location
DPW - Water	Meter Shop	1901 S. Kinnickinnic Ave	Roim 9004 Switch - Node 7		
Health	Johnston Health Center	1230 W. Grant St	Roim 9004 Switch - Node 7		
DPW - BFD - Comm Shop	Canal Street Shop	1440 W. Canal St	Roim 9004 Switch - Node 8	Remote Shelf	Switch Location
DPW - BFD - Fleet	Central Garage / Dispatch / Night Parking	2142 W. Canal St	Roim 9004 Switch - Node 8		
DPW - BFD -	BFD Field Ofc / Paint Shop / Asphalt Plant	6th & Traser Complex	Roim 9004 Switch - Node 8		

Total of 8 Nodes 25

Total sets 38

Set Breakdown "Top of the line" display stations w/ speakerphones (36%)  
 Smaller display type set w/ speakerphone (44%)  
 Model 6416  
 Model 6408

Single line sets (20%)

Model 6402

Total sets

**Trunking**

- 6 incoming only Ameritech T1.5s at 809 Bldg
- 6 ISDN Primes for outgoing
  - 4 at 809 Bldg
  - 1 at Library
  - 1 at Shop - Canal Street
- 1 AT&T T1.5 for Long Distance
- 26 CO Trunks for modems and 911 calls
- 35 CO Trunks for various ACD's
- 6 Tie Lines to Milwaukee County Govrnt Ofc