



CITY OF ARVADA

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2007-2011

# Information Technology Strategic Plan

*“Delivering Value through Information Technology Services”*



*Delivering Value through Information Technology Services*

Revised 2007

## **Introduction**

The Information Technology (IT) Department has prepared this strategic plan in conjunction with other planning documents from the City's Executive Management Team (EMT) and the IT Council.

The intent of this plan is to guide the City of Arvada's information technology resources over the next three to five years. The rapid changes in the technology can make it hard to quantify in lots of details so this plan is designed to serve as a framework only. Continual monitoring is necessary to ensure that technology selected meets the identified needs presented by IT customers. This Strategic plan supplements the City of Arvada's Information Technology business plan (2 year project and resource plan) and the Architecture and Infrastructure Plan (IT Standards and IT Council Goals).

Specific objectives of the plan include:

- To summarize technology trends relevant to the City and technology industry.
- To profile current infrastructure, resources, and systems.
- To provide information regarding tactical plans and action steps for upcoming years.
- To identify proposed systems needed to support City goals.

## **Overview**

The scope and intent of the City of Arvada Information Technology (IT) plan remains to guide resources and look for business technology opportunities for the coming years. The following are guiding principles to support the IT strategy:

- ❖ Use existing technologies while continually monitoring emerging technologies for consideration, when appropriate;
- ❖ Commit to open systems to enhance compatibility and maximize data exchange, utilizing Business Process Management where applicable;
- ❖ Define short and long-term Web strategy to enhance information dissemination and revenue;
- ❖ Create partnering opportunities or shared services to enhance information management and dissemination;
- ❖ Look at future resources needed to develop, deliver and maintain effective information technology systems and processes, and the associated training.

## **Industry Trends**

During the past several years, private and public sectors have felt the urgency find new ways to budget for IT initiatives. As economic pressures reduce available funds, many IT organizations will focus on maintenance, ongoing operations and open source. This is not necessarily bad news. IT shops will work on completing infrastructure projects and integrating existing systems with new web-enabled front ends. Focus will be on performance, reliability, and security. Another opportunity from this is partnerships. Work with others who are interested in sharing services across agencies. It makes no sense for every local agency to create its own disparate set of systems; sharing services and information, collaborating and consolidating should be a goal.



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Recent natural disasters in the Gulf have made us all aware of the potential for disaster. Security of systems and information will be prevalent in the IT industry. Disaster recovery planning and testing are key components. Web page content that normally is informational in nature should now be reviewed as to its potential in criminal or terrorist use. Web e-commerce and e-government initiatives continue.

Data and technology needs continually grow at the City and this needs to be reviewed and consolidated where possible so that information is easily accessible and duplication of effort and resources do not occur. With the implementation of best of breed applications during the last several years we are seeing less sharing of data and an increase in the existence of “data silos”. This issue complicates cross-departmental sharing, increases overall data storage requirements, and in many cases compromises overall City data integrity. The IT Task Force will play a continuing role in the prioritization of new technology. A look towards new Open systems will be expanded upon to allow the city to grow technology at reasonable costs.

Information is everywhere and needs to be centrally managed for citizens through a 3-1-1 / CRM system and through data management on the back end.

Wireless initiatives continue to grow and mature. Integration of web services over web compliant devices will continue. Web enabled devices will change from the traditional laptop to PDA to cell phone. Wireless initiatives need to be addressed inside and outside the organization. External wireless initiatives will need to be collaborative in nature.

## *Strategic Direction*

### **Technology usage in Municipalities**

Many conflicting reports continue to try and predict the future of technology in the public sector. Although opinions differ on the current economy and the future of IT trends the focus has remained the same. Five themes emerge:

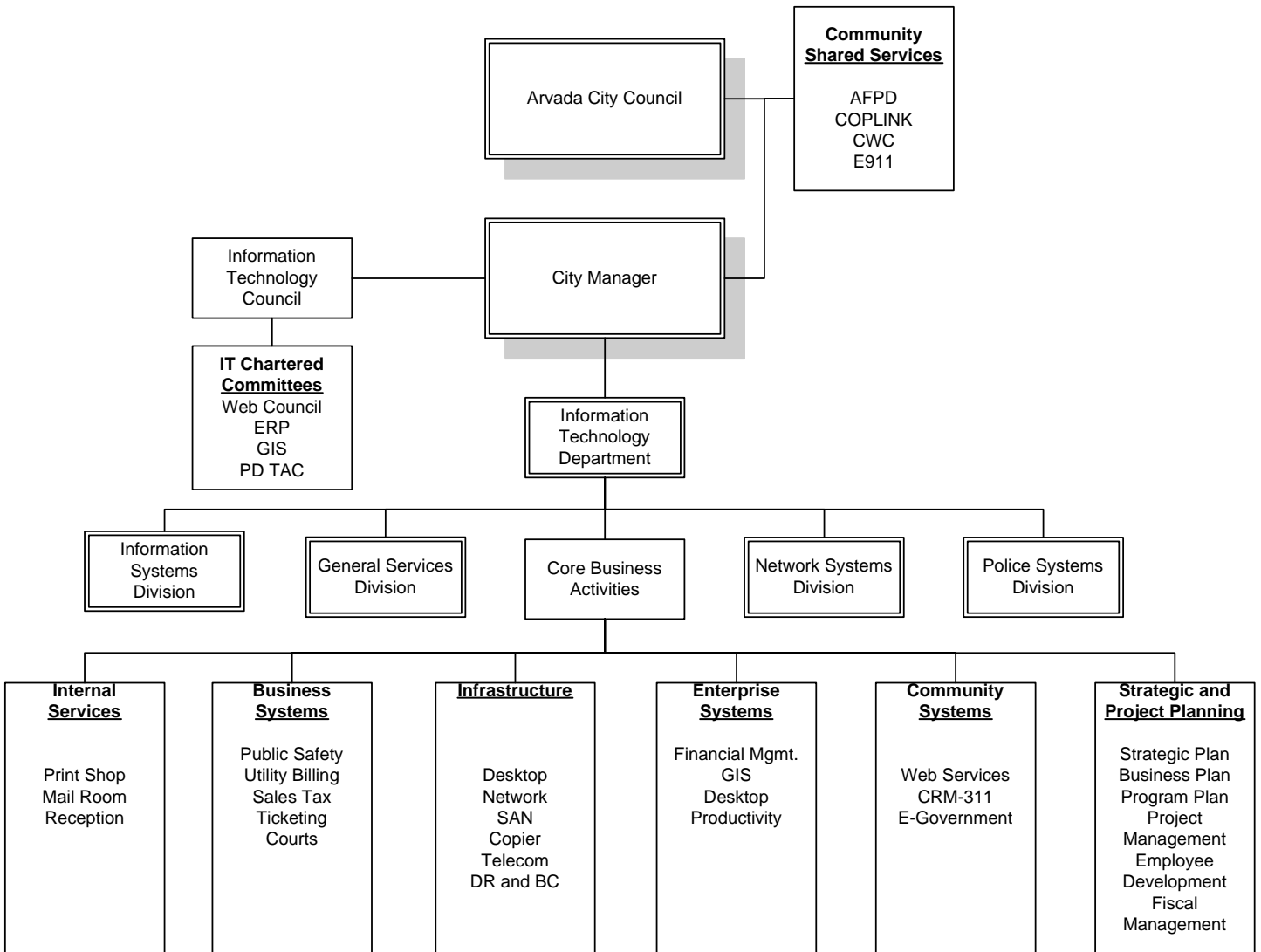
1. Monitor the technologies that will enhance your organization’s capabilities in the areas of community building, collaboration and knowledge sharing.
2. Don’t underestimate open source technology and shared services.
3. Technology will become increasingly accessible to all levels of the community and organization.
4. Expect pain with gain as you implement new systems. Business process needs to be changed to meet the software as it is designed off the shelf. Customizations are costly at each and every upgrade. Security of systems and information is never ending and especially relevant when implementing new systems.
5. The chief executive must provide leadership on technology initiatives from a business perspective when dealing with all current and new projects. Technology must be perceived as core business services, for example web content management is as mainstream as filling potholes.



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## Information Technology Department

**PURPOSE:** To create and maintain the computer infrastructure including hardware, software and telecommunications equipment necessary to support needs of the City of Arvada. Additionally, the Information Technology Department operates all internal mail, print and main reception services for the City.





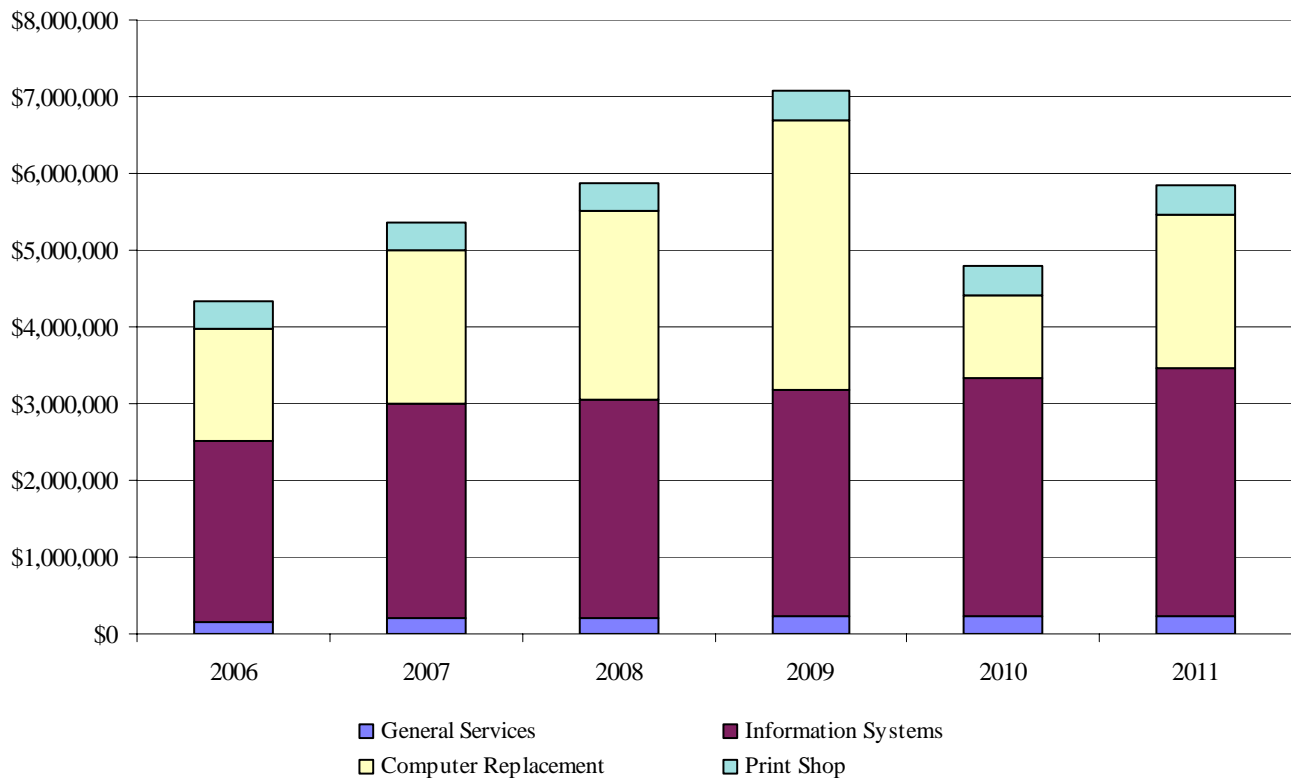
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**REVENUE SOURCES:** General Fund, Internal Service Fund, Central Service Fund

## Expenditures by Division

	2006 Actual	2007 Revised	2008 Revised
<b>Central Services</b>			
Print Shop	\$ 346,611	\$ 339,377	\$ 357,211
<b>General Fund</b>			
General Services	151,999	208,489	216,796
Information Systems	2,371,989	2,784,437	2,834,365
<b>Replacement</b>			
Computer Replacement	1,462,363	2,017,110	2,465,390
<b>Total Information Technology Department</b>	<b>\$ 4,332,962</b>	<b>\$ 5,349,413</b>	<b>\$ 5,873,762</b>

## Operating Expenditures by Division



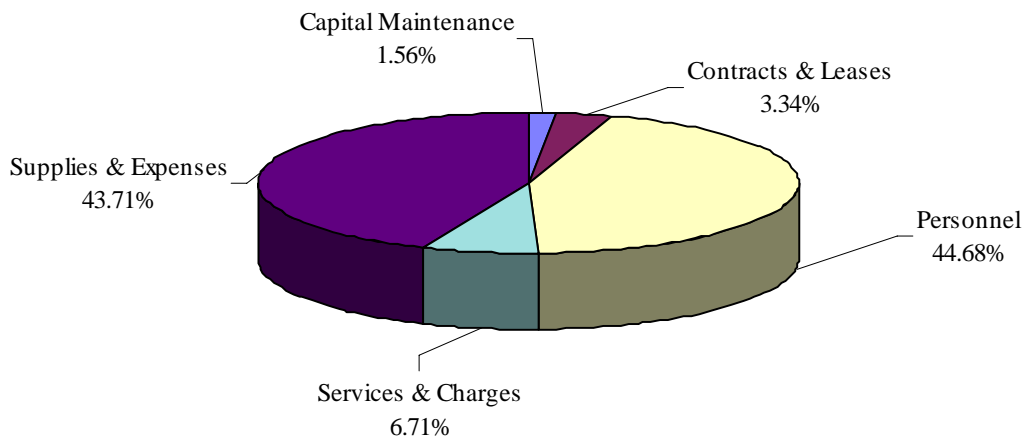


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## Operating Expenditures by Category

	2006 Actual	2007 Revised	2008 Revised
<b>General Fund</b>			
Personnel	\$ 2,026,723	\$ 2,310,581	\$ 2,410,647
Services & Charges	264,295	372,136	384,112
Supplies & Expenses	124,048	219,950	155,156
Contracts & Leases	69,562	47,261	50,419
Inventory	17	-	-
Capital Maintenance	32,882	42,998	50,827
Capital Outlay	6,461	-	-
<b>Replacement</b>			
Personnel	62,206	67,822	71,670
Services & Charges	35,424	10,000	10,000
Supplies & Expenses	896,997	1,910,683	2,354,389
Contracts & Leases	900	-	-
Capital Maintenance	-	28,605	29,331
Capital Outlay	35,436	-	-
Transfers	431,400	-	-
<b>Central Services</b>			
Personnel	127,354	134,505	142,045
Services & Charges	(11)	-	-
Supplies & Expenses	49,539	52,261	57,827
Contracts & Leases	145,098	141,379	145,620
Capital Maintenance	17,631	11,232	11,719
Capital Outlay	7,000	-	-
<b>Total Information Technology Department</b>	<b>\$ 4,332,962</b>	<b>\$ 5,349,413</b>	<b>\$ 5,873,762</b>

## 2008 Operating Expenditures by Category





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## ***Information Technology - Division Information***

### **Information Systems Division**

**PURPOSE:** The Information Systems Division provides computer system support, programming and services to City Departments, manages information systems projects and guides the organization in the areas of telecommunications, system automation, and information retrieval.

**PROGRAMS:**

- |                               |                                       |
|-------------------------------|---------------------------------------|
| Telecommunications            | Utility Billing and Sales Tax Systems |
| Financial Management System   | GIS Support                           |
| Arvada Center Systems Support | Permits Software Support              |
| PG&HS System Support          | Disaster Recovery Planning            |
| Web Services                  | Project Management                    |

**PERFORMANCE MEASURES – 2007 and 2008**

- Maintain computer system availability at 98% during normal business hours
- Maintain Telephone system availability at 99% during normal business hours
- Monitor employee participation in technical and personal development training annually to be 90% or better.

### **Network Systems Division**

**PURPOSE:** The Network Systems Sub-Division administers, maintains, repairs, supports, and provides services to City departments in the areas of workstations, servers, local and wide area network connectivity, email, data backups, helpdesk, replacement fund, file and print services, network wiring, web access, and computer room environment.

**PROGRAMS:**

- |  |                                 |
|--|---------------------------------|
| Operating System Support                 | Network File and Print Services |
| Server Administration                    | E-Mail                          |
| Help Desk                                | Wiring Infrastructure           |
| PC Installation, Maintenance and Support | Computer Room Environment       |
| Replacement Fund                         | WEB Access                      |
| LAN/WAN                                  |                                 |

**PERFORMANCE MEASURES – 2007 and 2008**

- Maintain 99.98% access to network for file access and printing
- Provide 99.98% access to Internet for internal/external Web access and internet e-mail
- Resolve 75% or better of helpdesk calls at first contact
- Keep employee participation in technical and personal development training at 90% or better



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## **Police Systems Division**

**PURPOSE:** The Police Systems Sub-Division supports, maintains, and upgrades all Police Technical Systems, as well as identifies, assesses, procures, and implements new technology to assist the police department in its public safety mission.

**PROGRAMS:**

City Radio System	PSAP/Communications Systems and Equipment
Police CAD/RMS	Interoperability and Communication with
Patrol Car Mobile Computers	Outside Agencies and Databases
Arrest/Booking Equipment	Helpdesk Response to Police Specific Issues
Specialty Systems and Equipment	

**PERFORMANCE MEASURES – 2007 and 2008**

- Maintain 99.99% functionality for Computer Aided Dispatch System, Police Radio System, and E911 phone system.
- Provide a 99% availability of Police Records Management System to all Police Department personnel.
- Provide 96% up time for Police Department Mobile Computer System.
- Assure that 95% of the area of the City provides wireless connectivity for the Police Department Mobile Computers.

## **General Services Division**

**PURPOSE:** Provide support and services to City departments, projects and employees in the areas of mail delivery, printing, binding, creative design services, main entrance reception and copier administration.

**PROGRAMS:**

Print Shop	Mail Delivery
Copiers	Reception

**PERFORMANCE MEASURES - 2007 and 2008:**

- Turn around all requests for print in less than 5 business days with 90% of work being performed within 24 hours
- Be the low cost provider for all duplication and design services work
- Maintain at 99% customer satisfaction rating in all areas
- Provide highly available convenience copiers with 99% uptime



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## **Staffing – Current and Proposed**

### **Information Technology Employee Positions**

	<b>2006</b>	<b>2007</b>	<b>2008</b>
Administrative Supervisor	1.00	1.00	1.00
Communications Specialist	0.00	0.00	0.00
Computer Support Specialist	0.00	3.00	3.00
Director of Information Technology	1.00	1.00	1.00
FMS Project Manager	0.00	0.00	0.00
Help Desk Technician	1.00	0.00	0.00
Information Systems Manager	1.00	1.00	1.00
Jr. Database Administrator	1.00	1.00	1.00
LAN Analyst	2.00	0.00	0.00
Network Administrator	1.00	1.00	1.00
Network Systems Manager	0.00	1.00	1.00
Oracle Software Administrator	1.00	1.00	1.00
Police Systems Analyst	1.00	1.00	1.00
Police Systems Manager	1.00	1.00	1.00
Project Administrator	1.00	1.00	1.00
Senior Database Administrator	1.00	1.00	1.00
Senior Network Administrator	0.00	1.00	1.00
System Support Specialist	1.00	0.00	0.00
Systems Administrator	3.00	3.00	3.00
Technical Systems Project Manager	1.00	1.00	1.00
Telecommunications Administrator	1.00	1.00	1.00
Web Master	1.00	0.00	0.00
Web Systems Administrator	1.00	1.00	1.00
Web Systems Project Manager	0.00	1.00	1.00
<b>Total General Fund Employees</b>	<b>21.00</b>	<b>22.00</b>	<b>22.00</b>

System Support Specialist	1.00	0.00	0.00
Computer Support Specialist	0.00	1.00	1.00
<b>Total Replacement Fund Employees</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>

Creative Services Designer	1.00	1.00	1.00
Printing Technician	1.00	1.00	1.00
<b>Total Maintenance Fund Employees</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>

Services Technician	1.00	1.00	1.00
Police Specialized Systems Administrator	0.00	1.00	1.00
<b>Total Police Tax Increment Fund Employees</b>	<b>2.00</b>	<b>2.00</b>	<b>2.00</b>

<b>Total Information Technology Employees</b>	<b>25.00</b>	<b>27.00</b>	<b>27.00</b>
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## Core Business Activities

### *Systems, Action Plans and Utilized Resources for 2007-2011*

The I.T. Department is comprised of several divisions of responsibility. Within these divisions the core business activities overlap boundaries. Divisions in IT collaborate in order to provide the best possible service to the organization and to the community. Programs and projects are divided amongst core business activities.

The core business activities include:

- Infrastructure Systems
- Business Systems
- Enterprise Systems
- Community Systems
- Internal Services
- Strategic and Project Planning

## Infrastructure Systems

### **Network**

A complex structure of network hardware and software is used at the City of Arvada to provide local, Internet and Wide area network connectivity and file and print services.

Novell servers are used for network directory services, network management, e-mail services and virus protection. Microsoft Windows and Linux servers are used as application and servers. Wide area network services are provided to all City buildings through fiber, copper telecom lines and line-of-sight wireless connections.

Implementing enhanced applications and e-business systems place significant additional demands on the internal network systems. A SAN (Storage Area Network) and high-speed tape backup systems were installed in 2001 and will be replaced in 2007. These new solutions provide significant storage to meet the needs for the organization plus offer streamlined administration and scalability. They also offer more fault tolerance for most city applications.

### **Action Plan (2007 to 2011)**

- Upgrade Novell Operating system and directory services to allow for single sign on capabilities (as needed)
- Upgrade Novell GroupWise e-mail to allow for wireless and telework initiatives (as needed)
- Replace server hardware as outlined in the computer replacement fund (annually)
- Implement security findings and Disaster Recovery site (2007)
- Assess Disaster Recovery needs (annually)
- Replicate SAN at Disaster Recovery site with Virtual Servers (2007)
- IDM “Identity Management” , Single Sign-on, Biometrics (2009)
- Research remote access via Citrix or VPN solutions – “Bird Flu” potential (2008)

### **Resources –**

Network Division staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund



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## PC / Desktop

The IT Department supports approximately 600 desktop workstations, approximately 100 laptops and over 200 software titles throughout the City of Arvada. Connectivity support is the main goal.

Initial PC hardware and software standards were implemented in 1996. An Internal service fund was also created to allow for the standardization and timely replacement of networked PCs, printers, laptops, servers, LAN/WAN equipment and software.

<u>Hardware:</u>	<u>Latest processor with 1gb memory</u>
<u>Software:</u>	<u>MS Windows XP SP 2(desktop operating system)</u>
	Novell GroupWise (e-mail, collaboration, and scheduling)
	MS Office XP (Word, Excel, Access, and PowerPoint)
	<u>MS Internet Explorer (web browser) Mozilla (web browser)</u>

### Action Plan (2007-2011)

- Start investigating full replacement of all PCs and laptops to include a new operating system (2008)
- Investigate and implement streaming applications and O/S (2008)
- Utilize deploy and patch desktop software annually as needed (e.g. MS Windows, Office) (annually)
- Continue to provide technical and end-user support for PC desktop systems and software (annually)
- Monitor marketplace for trends and adjust plans accordingly.
- Replace or upgrade Helpdesk software (2007)

### Resources –

Network Division staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund

## Telecommunications

A fiber optic-based circuit was deployed January 2001 to increase bandwidth and reliability. A Nortel phone system was installed as a traditional PBX system but will allow for future capability with Voice over IP (VoIP). The new PBX switch can allow VoIP cards to be installed and VoIP phones can be installed at the desktop.

### Action Plan (2007 – 2011)

- Investigate alternative voice mail solutions for increased functionality. (2008)
- Negotiate new long distance contract at duration of current agreement term (2008).
- Complete needs assessment, request, acquisition, and installation of new phone switch, new dialing plan and compatible voice mail system (2009).
- Upgrade Call Pilot with web capabilities (2007)
- Implement Call Accounting (2008)
- Bid for the maintenance for phone system – if necessary (2008)
- Deploy VoIP solutions for building expansions (2007)
- Prepare for VoIP replacement system (2009)
- Implement VoIP system (2010)

### Resources –

Network Division staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund



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## **Wireless Initiatives**

Wireless initiatives continue to grow and mature. Integration of web services over web compliant devices will continue. Web enabled devices will change from the traditional laptop to PDA to cell phone. External wireless initiatives will need to be collaborative in nature.

### **Action Plan (2007-2011)**

- Implement and secure wireless standards, Blackberry and Windows OS PDA (2007)
- Implement security and use policies (2007)
- Monitor Legislative Action (Qwest, others) (annually)
- Implement and secure internal wireless network for staff and citizen use (2007)
- Work with partner communities (CWC) to attract a public-private partner to build a regional WiFi network (2008)
- Work with internal customers on future field use initiatives (2008-2010)

### **Resources –**

IT Director, Network Division staff, Fund 01- General Fund

## **Business Systems**

### **Police - Computer Aided Dispatch and Records Management**

This system allows for automation of Dispatching of 911 calls and for records management in the Police Department. A GIS based system has been procured and installed. Plans are to convert data from the current PRC system to this new Intergraph system, called ISYS. PD staff coordinates this project, data conversion and system administration actions will be needed from IT.

#### **Action Plan (2007 – 2011)**

- Work with area partners and finish implementation of data sharing system (Coplink) (2007)
- Upgrade Police Computer Aided Dispatch and Record Management System as needed (annually)
- Radio System Rebanding (2007)
- Radio System Base Station Upgrade (2007)
- Radio System Microwave Replacement (2007)
- Mugshot System Replacement (2007)
- Livescan Fingerprint System Replacement (2007)
- Beta test voice recognition software in PD records with Dictaphone (2009)
- Mobile Video in Vehicles (2009)
- Mobile license plate reading technology (2009)

### **Resources –**

Police Division staff, Fund 52 – Computer Replacement Fund, Fund 01- General Fund, Fund 22- PD Tax



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## **Arvada Fire Protection District**

Work will continue with our community partner to enhance use of technology where appropriate for field use. Staff cost sharing to continue.

### **Action Plan (2007 – 2011)**

- Install GroupWise email system for Arvada Fire Protection District (2007)
- Investigate options for VPN's (Virtual Private Network) (2007)
- Investigate remote learning options, virtual training (2008)
- Server Upgrades – hardware and software (annually)
- Records Management upgrades (2007)
- Dispatch Center reconfiguration (2008)

### **Resources –**

Network Division staff, Information Systems Division Staff, Fund 01- General Fund

## **Ticketing, Education and Development System - Arvada Center for the Arts and Humanities**

This system allows the Arvada Center to sell tickets to events, keep track of patrons and donors, cultivate information relating to marketing efforts and schedules education related courses. Tessitura was procured and implemented in 2003.

### **Action Plan (2007-2011)**

- Upgrade twice annually
- Upgrade web API for web payment system (2008)
- Online Ticket sales security (2007)
- Web site revamp (2008)
- Online donation system (2008)
- Utilize RSS technology for patrons (2008)

### **Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 08 – Arvada Center Fund

## **Utility Billing Initiatives**

A search is underway to find a new Utility Billing software to accommodate these goals and automate processes in the field.

### **Action Plan (2007- 2011)**

- Upgrade existing Utility Billing System (2008)
- Complete the data transfer from the old system to new (2008)
- Complete training necessary for System Administration (2007)
- Implement Disaster Recovery Site and test (2008)
- Implement new Utility Billing System, IVR and Web (2008)
- Add additional functionality, such as Water Budgets etc (2009)

### **Resources –**

Information Systems Division staff, Network Division staff, Fund 52 – Computer Replacement Fund, Fund 79 – Water Fund



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## Enterprise Systems

### **Financial Management and Budget Preparation**

Oracle Financials client-server based software solutions were deployed mid 1999 for financial management and budget preparation. The new software provides enhanced functionality in general accounting, payables, purchase order and budgeting.

#### **Action Plan (2007- 2011)**

- Implement software upgrades for both applications and databases as needed. (annually)
- Investigate options for web-based reporting through Discoverer. (2007)
- Implement disaster recovery site and test (ongoing)
- Implement changes to Personnel Rules (2007)
- 

#### **Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

### **Human Resources**

A comprehensive HR system was implemented in 2007 to handle City of Arvada’s human resources, applicant tracking, and training tracking needs.

#### **Action Plan (2007- 2011)**

- Implement applicant and training tracking modules (2007)
- Investigate benefits management software (2008)
- Investigate and implement recruitment software (2007)
- Integrate benefits system with vendors (2008)

#### **Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

### **Document Management**

This document imaging system was installed in 1997 and its initial plan was for managing internal documents. Since this time the City Clerk’s office has expanded the system and made documents available on the Internet. Many departments directly or indirectly use this system. It stores planning documents, asset management documents, court information and miscellaneous other documents.

Direct users include the Building Division, Courts, Clerk, Planning, CMO, Legal and Traffic. City Council Members indirectly use the Docs system by using the Paperless Council Packet. In the future the entire City could use the Docs system for storage of virtually any electronically created document. With this system anyone can save, retrieve, and search the system from any desktop with Internet access, as seen on the city website.

#### **Action Plan (2007-2011)**

- Create a method for data recovery and backups (2007)
- Create a method for adding this system to the computer replacement fund (2007)



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- Modify front end system for citizens for ease of use (2007)
- Create methods to incorporate all data required in data retention policy to reside in system, to include word docs, spreadsheets, email, IM and others (2007)
- Train all employees on appropriate use of system (2008)
- Create Taxonomy for all current and future uses of this system (2008)
- Monitor trends in vendors as the consolidate (annually)

## **Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

## **Geographical Information System (GIS)**

A GIS system has been in place for many years at the City of Arvada. It was started using AutoCad software to map data about city streets, water structures, parks, zoning, council representation, location of traffic devices, sewer devices and maintenance, master index of subdivision plans, special districts, impact fees, resurfacing maps, project maps and easements, to name a few.

The new direction taken is to move from a mapped based system to a database system. The Geo Data Services Division has chosen ESRI products for this action. Staff training and software have allowed for the creation of this new system. It has a presence on the new city website.

## **Action Plan (2007-2011)**

- Purchase licensing for organizational use (2007)
- Implement prioritized GIS projects (2007)
- Look at future releases of ESRI and compare to Google or “free” maps for web use (2008)
- Standardize all addressing in GIS (2008)

## **Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

## **Community Systems**

### **Web**

The City of Arvada currently has several active web sites. They are listed for review. Site capabilities include department specific public information, jobs/resumes listing, public meeting agendas, and links to other city Web sites. Arvada Interactive (The Blueprint for e-commerce in Arvada) was designed to create an avenue for e-Commerce activities. Many goals relating to Arvada Interactive will be implemented over the next 3 to 5 years.

### **Action Plan (2007 – 2011)**

- Create and implement a Web site redesign that takes advantage of key technology acquisitions and supports organizational and Community goals for:
  - ArvadaPD.org (Police and Public Safety, Victim Advocacy)
  - Inside.arvada.org (Intranet)
  - ArvadaURA.com. (Arvada Urban Renewal Association)
  - Arvadacenter.org (Arvada Center for the Arts and Humanities)
  - AEDA.biz (Arvada Economic Development Association)



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- Integrate Arvada Interactive goals:
  - Online Utility Billing Payments with new UB system (2008)
  - Online Council/Planning Documents and Public Access to City Documents (2007)
  - Applicant Job Tracking (2007)
  - Upgrade Permitting software to allow for web interface (2007)
  - IVR for permitting (2007)
  - GIS/Mapping and Google (2007)
  - Standardize all Online Procurement (2009)
  - Crime Reporting (2006)
  - Upgrade Streaming Video and podcasting (2008)
  - Replace CRM system with off the shelf system (2007)
  - Rewrite inside.arvada.org to utilize new backend open source tools (2007)
  - Add RSS functionality (2007)
  - Upgrade video (YouTube) and photo (Flickr) functionality (2007)

**Resources –**

Information Systems Division staff, Fund 52 – Computer Replacement Fund, Fund 01 – General Fund

### **CRM – 3-1-1**

For those who want a more convenient way to contact City Hall, CRM or *AskArvada* was implemented to enable residents, businesses, and visitors to access valuable city information and submit questions or service requests 24-hours a day, seven days a week from the comfort of their homes or offices. This is a hosted solution.

**Action Plan (2007-2011)**

- Implement new off the shelf CRM and train employees on use (2007)
- Add internal services on intranet (2008)
- Train new employees and managers (annually)

**Resources –**

Information Systems Division staff, Fund 01 – General Fund

## **Internal Services**

### **Mail delivery and distribution**

The City of Arvada has 1 FTE position, job shared currently, to provide mail delivery internally and externally. They distribute incoming and outgoing mail, send out bills, paychecks and other communications from the City.

**Action Plan (2007-2011)**

- Work with customers on postage saving opportunities (annually)
- Work with the print shop to implement postage savings (2007)
- Replace Postage Machine to comply with new indicia regulations (2007)

**Resources –**

General Services Division staff, Fund 01 – General Fund



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## **Printing and Binding Services**

The City of Arvada has had on-site printing, reproduction and binding services on-site for over 20 years. This work was primarily done on printing press devices. In 2001 the city entered into a lease with Xerox to bring on a high-speed networked copier. This was implemented to address customer concerns on job turn around time and quality. The Xerox only does black and white and color jobs are run on the Press.

### **Action Plan (2007-2011)**

- Market the current services to the organization (ongoing)
- Monitor departmental copiers state award pricing and replace units (2007)
- Replace other equipment, such as the Press as needed (2008)
- Work with customers on “creative services” or graphic services (annually)
- Create Arvada Calendar (annually)
- Create Arvada Report layout (bi-monthly)

### **Resources –**

Information Systems Division staff, Fund 53 – Central Services Fund, Fund 01 – General Fund



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## Proposed Future Systems

These systems are seen as needed but perhaps unfunded during prior budget processes.

### **Business Process Management**

A variety of activities happen each day at the City. Some of these processes are documented, some are automated and some reside with an employee's job knowledge. These processes need to be identified and documented and then business systems need to be addressed to make some of these processes automated.

Software can be introduced to the Organization that allows for the integration of data between systems.

### **Action Plan (2007-2011)**

- Create a list of potential business processes to target (2007)
- Prioritize and setup a test pilot system HR (2009)
- Analyze test pilot and determine path (2009)

### **Resources –**

Information Systems Division staff, Fund 01 – General Fund

### **Police Inter-agency Information Sharing (2007) COMPLETED**

Most recently, members of the Arvada Police Department have spearheaded an effort to develop an information sharing strategy among neighboring agencies. This project was funded with several grants (E911, JAIBG, GTEA/DV and others) at a cost of approximately \$850,000 and is built in cooperation amongst the members. Members provide resources in the form of staff time to manage and maintain this system. One agency houses the system and maintains the servers.

This project unites the vital data from the information systems of seven Northwest Denver Metropolitan Area public safety agencies utilizing CopLink software. COPLINK provides unparalleled analysis and decision support for rapidly identifying criminal suspects, relationships and crime patterns. It works by allowing vast quantities of structured and seemingly unrelated data, currently housed in various incompatible databases and records management systems, to be securely organized, consolidated and rapidly analyzed over a highly secure intranet-based platform. This information can include mugshots, last known address, registered vehicles etc. The rate for solving cases will increase significantly with the use of this software. It is a web based software linked to all the participating agencies. A link cannot be shared for security reasons.

A go live date was Q2 2007, training has begun and agencies have already been able to start solving crimes previously unsolved with just the data that has been transferred to date. It is yet unknown the impact of fully utilizing this software. A lot of work will be done in the next 2 years to fully utilize the potential and to link into other Coplink sites, potentially from across the country. There is a lot of interest in the greater metro community on this project and several demos have been requested by cities and counties not yet participating.

### **Resources –**

Police System Division staff, Fund 01 – General Fund



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## **Citizen Response Management System (2007) COMPLETED**

An important system that needs to be upgraded and implemented in the next biennium is the Citizen Request Management (CRM). This system will affect how business is done across all Departments in the City.

CRM is the next transformational system for the City of Arvada. We have in-house developed web based CRM in place now, but hope to implement an off the shelf fully functioning, searchable, reportable back end system.

With an upgrade to an off the shelf CRM we anticipate that Arvada will be able to:

- Use Limited Resources More Wisely
- Set a "level of service" and monitor it
- Allocate maintenance funding based on need
- Integrate with systems we already use
- Implement automatic reminders of work priorities
- Get more done with same staff
- Track internal requests
- Generate reports for trend analysis
- Understand problems occurring around the city
- Generate reports for managers and elected officials
- Have reports can be automatically distributed
- Surveying of citizens on a timely basis, as events occur

### **Resources –**

Information Systems Division staff, Fund 01 – General Fund

## **I.T. DEPARTMENTAL STANDARDS**

The I.T. Department has shifted from an ad hoc decentralized technology focus to one of a managed centralized focus. As such standards on technology implementation and use are now in place.

Departments work with I.T. and the I.T. Council when implementing technology. Projects are not funded unless they meet specific Infrastructure standards, as seen in Appendix A.

Appendix B shows where systems meet specific System Architecture standards now.

Appendix C table shows the framework for procuring and implementing software.

Since this document focuses on long term vision, the standards are kept and updated in the IT Architecture and Infrastructure Plan. The IT Architecture and Infrastructure Plan Document shows **specific standards for hardware and software**. It is updated annually and located on [www.arvada.org](http://www.arvada.org) under the IT Department home page. Please refer to this document for detailed information.



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## IT DEPARTMENTAL GOALS

**GOAL:**        **Create and communicate all strategic plans**  
                         **Objectives**

<ul style="list-style-type: none"><li>• Monitor the Disaster Recovery Plan and Systems Security Policy and make changes as the environment changes</li></ul>
<ul style="list-style-type: none"><li>• Monitor the IT Enterprise Architecture and Infrastructure Plan and make changes as the environment changes.</li></ul>
<ul style="list-style-type: none"><li>• Create Strategic Plan for Creating a Broadband Economy</li></ul>
<ul style="list-style-type: none"><li>• Continue to provide quality services incorporating the City’s Vision statement of “Continuing to Build a Great Community”</li></ul>
<ul style="list-style-type: none"><li>• Continue to provide quality services incorporating the City’s Organizational values of Professionalism, Accountability, Open Communication, Respect, Innovation, Integrity, Community and Personal and Professional Enrichment</li></ul>



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**GOAL: Identify opportunities for business process improvement and data integration through the use of technology**

**Objectives**

<ul style="list-style-type: none"> <li>▪ System Integration – Work with the major systems to allow integration by reviewing Business Process Management. Utilize efficiencies with the Human Resource Department</li> </ul>
<ul style="list-style-type: none"> <li>▪ Adjust annual costs for the departmental copiers from 2.5 cents per page to 5 cents per page for the 2006 budget</li> </ul>
<ul style="list-style-type: none"> <li>▪ GroupWise 6.5 to 7.0 upgrade</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create inter-governmental agreements with smaller municipalities to perform Print Shop work</li> </ul>
<ul style="list-style-type: none"> <li>▪ Automating the City Directory changes to the Intranet</li> </ul>
<ul style="list-style-type: none"> <li>▪ Modify the current mail run schedule to accommodate increased workloads</li> </ul>
<ul style="list-style-type: none"> <li>▪ Automate PC Deployment</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create HR system to track prior FTEs</li> </ul>

**GOAL: Increase communication at all levels of the organization and community relating to technology initiatives**

**Objectives**

<ul style="list-style-type: none"> <li>• Arvada Interactive web focus –re-write city website with community focus</li> </ul>
<ul style="list-style-type: none"> <li>• Colorado Wireless Communities WiFi</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain and support the City websites</li> </ul>
<ul style="list-style-type: none"> <li>• Transition the all city websites onto a manageable platform</li> </ul>
<ul style="list-style-type: none"> <li>• Transition the PD Internet site to a manageable platform</li> </ul>
<ul style="list-style-type: none"> <li>• IT newsletter - quarterly</li> </ul>
<ul style="list-style-type: none"> <li>• Inside.arvada.org – maintenance of intranet</li> </ul>



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**GOAL: Develop annual training plans for IT staff and the organization**

**Objectives**

<ul style="list-style-type: none"> <li>• Continue Employee Enrichment through projects and training, continue the WOW system</li> </ul>
<ul style="list-style-type: none"> <li>• Plan the utilization and deployment of a remote access system, Citrix, work with Human Resources on a telework program</li> </ul>
<ul style="list-style-type: none"> <li>• GroupWise training to include calendaring and new version features</li> </ul>
<ul style="list-style-type: none"> <li>• Web Training for self-manageable pages</li> </ul>
<ul style="list-style-type: none"> <li>• Create Superusers for Desktop applications</li> </ul>
<ul style="list-style-type: none"> <li>• Basic Windows skills and File Management training</li> </ul>

**GOAL: Collaborate with user departments or the organization on infrastructure and systems improvement**

**Objectives**

<ul style="list-style-type: none"> <li>• Determine Disaster Recovery needs and implement solution for the Police Dept.</li> </ul>
<ul style="list-style-type: none"> <li>• Systems Security – staffing, training and annual review</li> </ul>
<ul style="list-style-type: none"> <li>• Enhance Directory Services and Implement the Identity Vault</li> </ul>
<ul style="list-style-type: none"> <li>• Standardize web IVR and payment system</li> </ul>
<ul style="list-style-type: none"> <li>• Investigate Blade Server technology</li> </ul>
<ul style="list-style-type: none"> <li>• Assist with Indiana Shop and Arvada Center Expansion</li> </ul>
<ul style="list-style-type: none"> <li>• Implement phase II of the Network Equipment Replacement Project with Wireless</li> </ul>
<ul style="list-style-type: none"> <li>• Work with Building and Grounds to create efficiencies in HVAC and power consumption and environment through monitors and powersave features</li> </ul>
<ul style="list-style-type: none"> <li>• Setup hardware for new Utility Billing Software</li> </ul>
<ul style="list-style-type: none"> <li>• Create Strategic Plan for Building a Broadband Economy</li> </ul>
<ul style="list-style-type: none"> <li>• CROSS TRAINING</li> </ul>



## Appendix - Basic Information Technology Terms and Definitions

Client / server	A network architecture in which each computer on the network is either a client or a server. Servers are powerful computers dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers). Clients are PCs or workstations on which users run applications. Clients rely on servers for resources, such as files, devices, and even processing power.
Cold Fusion	A scripting language developed by Allaire that facilitates the rapid development of web applications.
Data warehouse	A collection of data designed to support management decision-making. Data warehouses contain a wide variety of data that present a coherent picture of business conditions at a single point in time.
E-business	Conducting business on-line, over the Internet or any private network. This includes buying and selling products with digital cash and via Electronic Data Interchange (EDI).
Firewall	A system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, including intranets.
HTML	HyperText Markup Language, the authoring language used to create documents on the World Wide Web.
Intranet	A network belonging to an organization accessible only by the organization's members, employees, or others with authorization. An intranet's Web sites look and act just like any other Web sites, but with a firewall for security.
Java	A general purpose programming language with a number of features that make the language well suited for use on the World Wide Web. Small Java applications called Java applets can be downloaded and run on your computer by a Web browser.
Network	A group of two or more computer systems linked together. Local area networks (LANs) are computers close together (e.g., in the same building). Wide-area networks (WANs) consist of computers that are farther apart (connected by telephone lines or radio waves).
PDF	Portable document format – a common graphic presentation format developed by Adobe Systems that allows files to be viewed using a web browser, while maintaining the format, style, and graphics elements of the file.
VoIP	Voice over Internet Protocol A category of hardware and software that enables people to use the internet as the transmission medium for telephone calls. To date, VoIP does not offer the same quality of telephone service as direct



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telephone connections.

However, more solutions that address VoIP's quality of service are coming into the market. IDC (International Data Corporation) has predicted that by 2004, VoIP revenues will top \$19 million worldwide, with VoIP delivering over 135 billion telephony minutes.

## XML

EXtensible Markup Language – a standard format for preparing data for use on the web. Unlike HTML, XML does not adhere to a singular set of formatting rules, but allows for more unique formatting for improved data portability.



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## APPENDIX A – Basic Procurement Technology Standards Worksheet

**This document is utilized in the following situations:**

- When the software requires a server
- When the software is utilized by more than one employee, division or business unit
- When the software requires regular data backup
- When the software is a candidate for the Computer Replacement Fund

**How this document is utilized:**

This document is to be used in the evaluation and procurement process to assess how a given software application will fit with the City’s technology infrastructure standards. Vendors will be expected to complete this form as part of the RFP process.

Also see **Technology Standards lists in the IT Architecture and Infrastructure Plan on [www.arvada.org](http://www.arvada.org)**

Current Components for City of Arvada IT Infrastructure		
Network Infrastructure	Hardware Infrastructure	Software
<input type="checkbox"/> 100/1000/10000 Ethernet Switches	<input type="checkbox"/> Server Hardware (Intel or AMD)	<input type="checkbox"/> MS XP, 2003, Vista
<input type="checkbox"/> 802.11x Foundry AP's	<input type="checkbox"/> Workstations (Intel or AMD)	<input type="checkbox"/> RedHat, MS 2003, Vmware, Netware
<input type="checkbox"/> Nortel Routers	<input type="checkbox"/> HP Business Class network printers	<input type="checkbox"/> GroupWise Email
<input type="checkbox"/> Iprism Web Filter	<input type="checkbox"/>	<input type="checkbox"/> LDAP
<input type="checkbox"/> Cisco PIX	<input type="checkbox"/> Fiber Channel or iSCSI SAN	<input type="checkbox"/> XML
	<input type="checkbox"/> McData Switches	<input type="checkbox"/> SMTP
		<input type="checkbox"/> Oracle
		<input type="checkbox"/> MS SQL
		<input type="checkbox"/> Apache
		<input type="checkbox"/> Cold Fusion
<p>OR Hosted Solution</p> <p>Please Explain Hosted Solution:</p>		
















































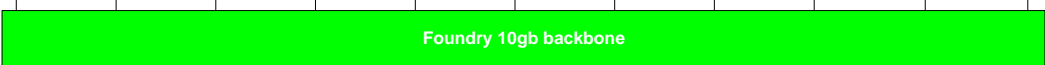


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## Appendix B – Systems Architecture Standards for Current Systems

The IT Department strives to make this matrix as “green” as possible. This allows us to utilize existing resources such as staff and their skills, software maintenance agreements and IT standards as much as possible. The IT Council makes project decisions based on the best interest of the organization, and utilizes this chart as a guide.

Also see Technology Standards lists in the IT Architecture and Infrastructure Plan on [www.arvada.org](http://www.arvada.org)

Component	City of Arvada System Architecture Information September - 2007												Primary Support Group
Application	Document management	Courts	Police System	Sales Tax and Utility Billing	Web Services	Financial System	Permits	Arvada Center Constituent Management	Waste-water	GIS	E-Mail	Telco	Information Systems
Database	 MS SQL	 Oracle	 Oracle	 Pick	 MYSQL	 Oracle	 Oracle	 MS SQL	 Oracle	 Oracle	 Novell	 Nortel	
Desktop O/S	 XP	 XP	 XP	 XP	 XP	 XP	 XP	 XP	 XP	 XP	 XP	 Nortel 3900 Series	Combo IS and Network Support
Server H/W Platform	 Intel	 Intel	 Intel	 HP	 Intel	 Intel	 Intel	 Intel	 Intel	 Intel	 Intel	 Nortel and Intel	
Server O/S	 Win 2000	 Win 2000	 Win 2000	 HPUX	 Linux	 Linux	 Linux	 Win 2000	 Linux	 Linux	 Net-ware	 Nortel	Network Systems
Network	 Foundry 10gb backbone												
Legend	<p>Items in Green are fully supported IT standards                      Items in Blue are supported, however less in-house expertise exists                      Items in Purple are supported but support may be contracted and systems are used because they are the best platform for a given application                      Items in Red are targeted for replacement</p>												



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## Appendix C – Software Procurement Flow Chart

