INTERDEV
Managed IT | Security

Proposal

Full Time Remote Security Engineer

for the

City of Delray Beach, FL

Atlanta
2650 Holcomb Bridge Road
Suite 310
Alpharetta, GA 30022
770-643-4400

Chicago
2700 Patriot Boulevard
Suite 250
Glenview, IL 60026
847-503-0660

June 26, 2018

Barracuda vmware cisco paloalto NETWORKS Inc. 5000 AMERICA'S FASTEST-GROWING PRIVATE COMPANIES

Table of Contents

Executive Summary

The City of Delray Beach has asked for a proposal for providing a full time remote Security Engineer for ten (10) months. InterDev welcomes the opportunity to partner with the City to provide this service. Our experience with local governments can help direct IT and security efforts, and budgets, where they have the greatest positive impact on your municipal operations. This engagement will begin with a Security Assessment which will take place over a period of two to three weeks and will provide valuable insight into the security of the City's IT infrastructure. This information will be utilized to produce a security scorecard and the framework for the City's security roadmap for the future.

Security Assessment

The methodology for a Security Assessment of the City's environment is accomplished with a utilization of a network appliance placed on the City's network. This appliance will efficiently discover all network computers and appliances then report on the age, software, security and usage of each device. In conjunction with the network scan, both internal and external security scans will be executed. The City will receive comprehensive reports covering their hardware, software and security status. These reports combined with InterDev's onsite review will be used to determine any areas which may need to be addressed. The timeframe for upgrades or issue resolution will depend on the severity of the situation – i.e. critical security issues should be addressed immediately for the safety of the City's data/information. Less urgent issues like hardware or software/OS version upgrades can be planned and managed according to City budgets and timelines.

Security Engineer

The full time remote InterDev resource will perform the initial assessment and reviews listed in the previous sections in coordination with InterDev's headquarters security and engineering staff. These scans will provide the basis for the analysis, evaluations and reporting. This information will be mapped to a security policy framework such as NIST 800-53 or another relevant framework, as well as the Critical Security Controls to come up with a security scorecard for the City. Once the scorecard is established a roadmap can be created to manage, measure and track security improvements.

Day-to-Day Operations

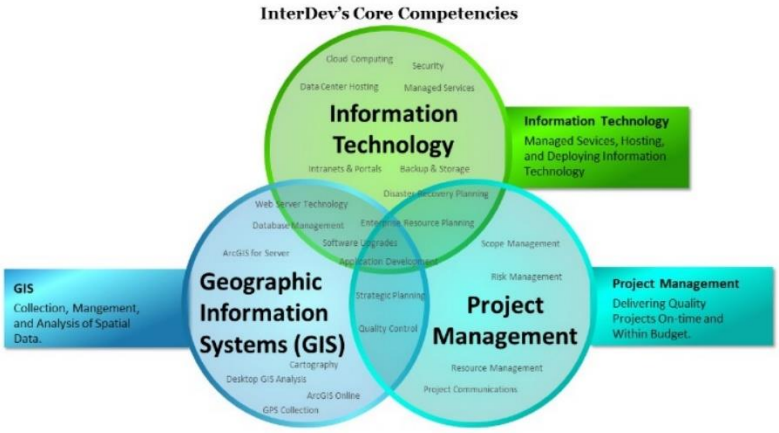
The remote resource will work to compliment the City's existing onsite IT staff. InterDev's security efforts will be performed in a structured, but adaptive manner to move the City's security initiatives forward while still maintaining the services necessary for day-to-day operations. The initial Security Assessment findings will produce the roadmap and prioritize the tasks/issues which should be tackled first. The planning process will take existing projects and initiatives into consideration.

Corporate Background and Qualifications

InterDev has been providing information technology (IT) support and security services to corporations, non-profit and educational organizations, and public-sector entities for more than three decades. InterDev recognizes the incredible potential of GIS and IT working together as one unit, therefore we have a highly skilled, eager, and motivated team of GIS professionals working with many of our municipal and commercial accounts. InterDev is headquartered in Alpharetta, Georgia with offices in Chicago, Illinois, and Beaufort, South Carolina.

InterDev History and Vision

InterDev's founder, Gary Nichols, is a recognized innovator in the IT industry, in part because of his consistent focus on the importance of strategic planning and visioning. While other companies were struggling to react, and adapt to the rapid acceleration of technology that began in the 1980s, Nichols and his team were encouraging clients to adopt a disciplined, future-focused approach to every IT effort.



In the 1990s, long before most IT firms had heard the term "public-private partnership" (PPP), Nichols and his team were contracting with the State of Georgia's Office of Insurance and Safety Fire Commissioner to assist with strategic IT development, a contract that InterDev retains to this day.

In 2010, InterDev again took a leading role in the PPP movement when it was chosen by the City of Sandy Springs for end-to-end management of its technology functions. Today, InterDev provides fully managed IT services to many cities in Metro Atlanta, plus seven cities in the northern suburbs of Chicago, IL. Overall, InterDev has completed successful projects with more than 60 public-sector entities.

InterDev has continued to promote the importance of strategic planning and visioning. By assisting its public-sector partners in developing and executing one, three and five-year planning efforts, they have reached the goal of adopting innovative and transformative IT methodologies that lead to continuous improvement.

InterDev maintains a clear focus on achieving in the present while planning for the future. InterDev's breadth of knowledge enables the company to work with technology systems from all periods and at all levels of complexity, including the legacy systems common in public-sector environments. InterDev has a proven ability to bridge the gap between older hardware and software and new technologies as we help our government partner's transition to contemporary

solutions. Furthermore, in situations where public-sector systems require updating, InterDev's recommendations routinely result in significant operating and maintenance cost reductions.

Core Values

InterDev is committed to providing top-tier services to municipal and small-to-medium enterprise corporate environments and nonprofit clientele. We apply an enterprise mentality to our work and insist on the highest ethics from our staff. We strongly believe in honesty, fair dealing, client-first mentality, respect for all, sustainable growth and stewardship of resources. InterDev is a diverse organization, both in principle and practice.

Experience

InterDev 's experience in the municipal sector, working with cities and other government entities to support their business processes sets us aside from our competition. Our team is dedicated to work with the end users at each municipality to provide the best quality support processes possible.

The hallmark of InterDev's success in business both in Public and in the Private Sector has been the coordination of efforts and resources with the goals and objectives of our clients. This coordination of our efforts and those of the clients and their constituents is essential to the continued success of the operations involved. Cooperation between the InterDev staff, City Staff, vendors, neighboring communities or municipalities is key to leveraging the effectiveness and efficiency of shared initiatives and projects.

Public – Private Partnerships

Today, it is no longer practical or affordable for municipalities to stay single handedly abreast of the latest developments in IT, whether implementing cutting-edge technology systems or defending against imminent data threats. InterDev has entered into public-private partnerships with select municipalities to bring its award-winning expertise to bear on behalf of these entities and their citizens.

As threat landscapes become more hostile, and budget restrictions make it more difficult for governments to stay current with emerging technologies, InterDev's security focused Managed IT Services offering has become the model for nearly two dozen successful public-private partnerships. Our ongoing work with cities and counties positions us to help the City of Delray Beach leverage powerful synergies that will result in more secure and efficient service delivery to the public.

For governments whose budgets are increasingly restricted, municipal knowledge sharing and resource pooling is no longer a theoretical concept—it is a proven model for dynamic leadership and success. InterDev's existing partnerships with local area governments and agencies will enable the City of Delray Beach to easily embrace this model for the benefit of the City and its citizens.

InterDev Municipal Accounts

InterDev's municipal customers include, but are not limited to, the following cities, counties or agencies:

- City of Sandy Springs, GA
- City of Beaufort, SC
- Village of Glenview, IL
- Village of Buffalo Grove, IL
- Village of Lake Bluff, IL
- Village of Kenilworth, IL
- Village of Lincolnshire, IL
- City of Dunwoody, GA
- City of Stonecrest, GA
- City of South Fulton, GA
- City of Chamblee, GA
- City of Decatur, GA
- City of Tucker, GA
- City of Canton GA
- City of Peachtree Corners, GA
- Rockdale County, GA
- Jasper County, SC
- Columbia County, GA
- City of Stockbridge, GA
- City of Highland Park, IL - Public Safety
- City of Lake Forest, IL - Public Safety
- City of Albany, GA
- City of Powder Springs, GA
- City of Holly Springs, GA
- City of Douglasville, GA
- Hall County, GA - Board of Commissioners
- Henry County, GA
- Lowndes County, GA - Board of Commissioners
- State of Georgia, Office of Insurance and Safety Fire Commissioner

With over 37 years of experience, InterDev's client list includes more than 1,250 businesses, governments, non-profits, school systems and other organizations. These varied accounts include more than 25 fully managed IT accounts – where InterDev provides their complete IT department staff and support services, from CIO to Helpdesk and all strategic planning, security, networking and troubleshooting. InterDev has regular accounts that use specific subsets of our Managed Services Plan such as server monitoring or security audits, and accounts that prefer a simple break-fix support agreement and call for IT service as needed.

InterDev Management Team

InterDev believes in its clients and its staff, and in the power of technology to fundamentally transform the way private and public-sector entities conduct business. We operate only at the utmost level of performance and believe that "best practices" is a requirement, not a platitude.

The InterDev team assigned to this engagement represents decades of experience working with Information Technology in both the municipal and corporate arenas. As a company, InterDev has been providing IT consulting, support and planning services for over 35 years. Our work in the State and Local Government area has extended over 15 years. Each team member has extensive experience in his field and in these markets. InterDev is proud to offer a team of professionals to provide the services requested by the City.

Gary Nichols, Founder & CEO

Gary Nichols founded InterDev in 1980 and along the way earned his stripes as an early adopter of PC technologies, local and wide area networking, the Internet, and the value of managed IT services.

Today Nichols leads a firm of 40 and is responsible not only for managing the firm's strategic direction but also for overall operations and customer satisfaction. His extensive experience provides a vast background for consulting in the critical areas of network infrastructure, knowledge management solutions, cloud computing, network security and municipal IT outsourcing.

Nichols' vision for how private-sector managed services could benefit the public sector, coupled with decades of service to varied local and state government agencies, is what ultimately led to the formation of successful public-private partnerships (PPP) with the City of Sandy Springs, the City of Brookhaven and the City of Dunwoody in Georgia.

Certifications:

- Certified Information Systems Security Professional (CISSP)

Competencies:

- Network Design
- Network Security
- IT Infrastructure
- Systems Integration
- IT Assessments & Audits
- Application Development
- Knowledge Management Solutions
- Disaster Response Planning
- IT Support/Help Desk
- Municipal IT Outsourcing
- VoIP/Telephony

Nichols earned a Bachelor of Business Administration from Georgia State University and is a Certified Information Systems Security Professional (CISSP). He is a member of the Technology Association of Georgia (TAG) and a volunteer with TAG-Ed.

Ashley Smith, Director of Government Services, GCCIO

Ashley Smith has served as the IT Manager at the City of Dunwoody for four years. His insight and planning have helped position the City of Dunwoody as a leader in the municipal arena. Smith and his team have worked diligently to ensure Dunwoody continues to set the bar for exceptional municipal services for its citizens. He has been working in government IT for the last 10 years, at both the state and local level. Prior to joining InterDev, Smith served as the IT and Communications Manager for the City of Hapeville, Georgia, and as the IT Manager for the Hapeville Wi-Fi Network, part of the Wireless Community Georgia Grant program sponsored by the Georgia Technology Authority.

As a presenter at the Georgia Municipal Association's Annual conference and the Annual Mayors' Day conference, Smith has taught classes on best practices in government IT and on using technology to improve government operations.

Smith has a Masters of Public Administration from Georgia Southern University and has his **Certified Government Chief Information Officer (CGCIO)** certification.

Certifications:

- Certified Government CIO (CGCIO)
- Cisco Certified Network Associate (CCNA)
- Network +
- GCIC Data Integrity
- DHS Technology Recovery Training
- DHS Project Management certificate

Competencies:

- FEMA Disaster Recovery Training
- Network Design
- Network Security
- IT Infrastructure
- IT Assessments & Audits
- Knowledge Management Solutions
- Disaster Response Planning
- IT Support/Help Desk
- Municipal IT Outsourcing
- VoIP/Telephony
- Tyler Incode
- Spillman
- Storage
- Security
- Windows Server Solutions
- NetApp

Daniel Schultheiss, Chief Operating Officer, COO

Daniel Schultheiss joined InterDev in 2006 as a Network Engineer and implemented InterDev's Managed Services platform. He played a key role during a major upgrade to the Lawrenceville Police Department's server infrastructure and was heavily involved in the program setup for InterDev's contract with the City of Sandy Springs, transitioning the City from a hosted domain to an on-premise solution. While at Sandy Springs, Schultheiss managed a staff of nine employees including network engineers, helpdesk specialists and GIS staff.

From 2013-2014 he served as the IT Director at the City of Brookhaven, Georgia, where he was responsible for all IT infrastructure, systems integration, and telecommunications and provides support for the City employees, Police and Fire Departments.

Certifications:

- Certified Information Systems Security Professional (CISSP)
- Certified Ethical Hacker (CEH)

Competencies:

- Public Safety
- CJIS Support
- Security
- Storage
- Networking
- Dell EqualLogic
- VMWare
- Barracuda
- Palo Alto
- SonicWALL

In 2014, he was promoted from Government Services Director to the Director of Information Technology & Security, CSO for InterDev. Schultheiss shares his extensive expertise in government IT and Security to provide analysis and recommended enhancements for the IT infrastructure of corporations and municipalities supported by InterDev. He has over eleven years of IT experience, including positions as Senior Systems Engineer and SAN Specialist for InterDev's corporate and municipal accounts.

Schultheiss graduated from the University of South Carolina in 2006 with a Bachelor of Science degree in Computer Engineering. He is a member of the Technology Association of Georgia (TAG).

Jesse Cail, Sr. Security Engineer, CISSP, GSEC

Jesse Cail is Interdev's Sr. Manager of the company's overall information security program. This includes identifying applicable regulatory compliance requirements and industry best practices, write and implement policy, develop user awareness training, conduct vulnerability and risk assessment, and the application of mitigating controls. Jesse has been tasked to research, test and implement security technologies without adversely impacting production environments. He has background in Windows Server Administration in virtual environments to include Active Directory and Exchange integration, DNS and DHCP configuration and management, group policy development and implementation, and all aspects of desktop and client support.

Knowledgeable in: NIST Cyber Security Framework, Payment Card Industry Standards, Criminal Justice Information Services Security, HIPAA Security Rule, IRS Pub 1075, Critical Security Controls, Check Point Software Blades and Gaia R77.20/R77.30, Cisco Umbrella/OpenDNS, Barracuda Networks Spam & Virus Firewall, Symantec Endpoint Protection Manager and Client (12 & 14), Thycotic Secret Server, Thycotic Password Reset Server, Kali Linux, NMAP Scanner, Nessus, Qualys, Nexpose, VMware ESXi, VMware vSphere, Microsoft Windows Server 2003, 2008, and 2012, Microsoft Exchange 2010, and 2016, SQL 2012 and 2014, Microsoft Direct Access, Windows 7, Windows 8, and Windows 10 Desktop Environments, Apple OS X, Apple IOS, Microsoft Office 2010, 2013, and 2016, WSUS 3.0, Ubuntu, Open SUSE, Air watch Mobile Device Management, U.S. Army Special Operations Forces Deployable Node family of systems, U.S. Army Special Operations Radio Integration System, and U.S. Army Special operations Tactical local area network (TACLAN)

United States Army

- 4th Battalion, 5th Special Forces Group (Airborne) – Fort Campbell, Kentucky
- National Security Council, White House –Washington, D.C.
- White House Communications Agency – Washington, DC

Certifications:

- Certified Information Systems Security Professional (CISSP)
- GIAC Security Essentials Certification (GSEC)

Competencies:

- Public Safety
- CJIS Support
- Security
- Storage
- Networking
- Dell EqualLogic
- VMWare
- Barracuda
- Palo Alto
- SonicWALL
- WatchGuard
- NIST Cyber Security Framework
- Payment Card Industry Standards
- HIPAA Security Rule
- IRS Pub 1075
- Critical Security Controls
- Check Point Software Blades and Gaia R77.20/R77.30
- Cisco Umbrella/OpenDNS

Lewis Wilkinson, Senior Project Manager, PMP

Lewis Wilkinson joined InterDev in 2011 as an Account and Project Manager. In 2012, he spent an eight-month engagement overseeing the citywide Tyler Munis Enterprise Resource Planning (ERP) conversion at the City of Sandy Springs. He is currently managing InterDev's team of PMI Certified project managers in the InterDev Project Management Office (PMO). During the first six months of 2014, Wilkinson worked closely with Village management and the GovIT Consortium transition team planning the orderly migration of five municipalities to InterDev's Managed IT Services.

Prior to joining InterDev, he spent 14 years working in sales, service, and support of ERP systems with companies including Computer Associates, SSA, BAAN, Systems Conversion, PowerCerv, BravePoint, and QAD. He has covered manufacturing, warehouse logistics, financial management and reporting for corporations in the United States and Mexico. During his InterDev tenure, he has worked extensively with Tyler Munis, Tyler Incode, New World Systems, Cityworks and the ESRI GIS software suite.

Certifications:

- Project Management Professional (PMP)®
- Certified ScrumMaster® (CSM)
- ITIL Foundations

Competencies:

- Enterprise Systems
- Tyler
  - Munis
  - Incode
  - EnerGov
  - New World Systems
- ESRI GIS Suite
- SAP R3
- Lawson
- Infor
  - Warehouse BOSS
  - PRMS
  - ManMan
  - CAS
  - BPCS
- QAD Logistics
- Microsoft Dynamics

Wilkinson has experience with the planning, implementation, project management and integration of enterprise systems with an emphasis in ERP and GIS systems.

Wilkinson earned a Bachelor of Arts in Sociology with Minor in Computer Science from Wake Forest University. He is a certified Project Management Professional as recognized by the Project Management Institute.

Staff Certifications

To keep up with the rapid pace of the technology marketplace, InterDev puts forth a significant investment in continuing education and certification for every employee. Upon the first day of employment, our employees are held accountable to keep up with the latest technology solutions and trends. It is due to this requirement that our employees currently hold some of the most prestigious certifications in the technology industry. Some of these certifications include:

- Certified Information Systems Security Professional (CISSP)
- Certified Ethical Hacker (CEH)
- Microsoft Certified Solutions Expert (MCSE)
- Project Management Professional (PMP)
- Geographical Information Systems Professional (GISP)
- ITIL v3 Foundation
- CISCO Certified Network Associate (CCNA)
- Certified Government CIO (CGCIO)

Company Certifications

In addition to maintaining partnerships with numerous best-of-breed technology vendors, InterDev is a Microsoft Gold Certified Partner, the highest level of Microsoft solutions partners, and is a Certified Diamond Reseller for Barracuda Networks. InterDev's close working relationship with industry leading hardware and software vendors provides our clients with critical information about the latest technology and the best practices for its use in their environments.

Security Assessment Overview

InterDev will perform a full internal and external vulnerability scan of the City's network and devices. Internal networks will include both wired and wireless network environments. The testing will reveal if the environment is vulnerable to attack and our remote resource will make recommendations in conjunction with the main for remediation and work with the onsite IT staff to resolve any issues. Should we discover a critical problem which requires immediate attention – testing will be paused and the City IT team will be notified.

Firewall Rules and Configuration Review

Firewall rules and updates will be examined to determine if patching and firmware is current and if best practices are followed for open ports and external access. Recommendations for changes will be provided, but no changes will be made without prior approval by the City.

Network Access Review

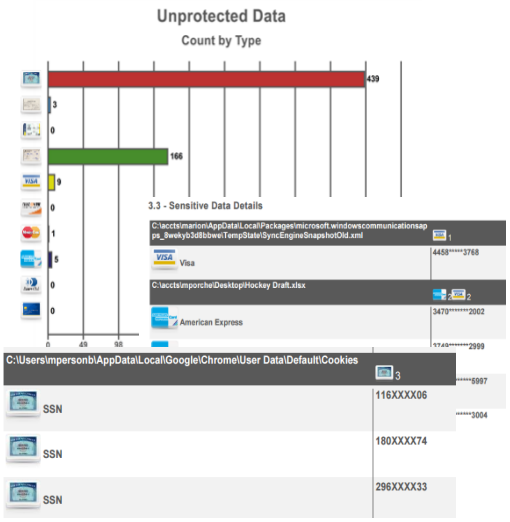
Access to the City's network and its resources will be investigated and identified. This will be compared with planned access for users with both internal and external access to City systems. A listing of access privileges will be provided to the City as part of the standard process and normal day-to-day duties.

Server and File Storage Access Review

User and Admin access to the City's servers and storage resources will be investigated and identified. This will be compared with planned access for users with both internal and external access to City systems. A listing of access privileges will be provided to the City as part of the standard reporting.

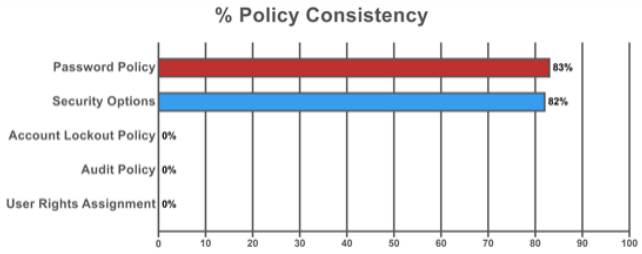
Sensitive Data Vulnerability

InterDev will perform a "sensitive data" scan during the assessment process. This portion of the assessment will identify specific and detailed instances of personal identifiable information (PII) throughout your computer network that could be the target of hackers or malicious insiders. Identifying this risk is the first step in the process of mitigating the risk of civil litigation and other penalties should a data loss or theft occur. The security of the computer is also examined to quantify the probability of a breach.



Policy Review

InterDev will review both written and computer based policies governing the City's data security, end-user system use and access, as well as network and internet usage and compliance. Recommendations for policy changes based on best practices and CIS Critical Security Controls (CSC) will be provided to the City following this review.



System Baselines and Benchmarks

Configurations from City workstations and servers will be evaluated to assess their conformance to known benchmarks from the Center for Internet Security (CIS) using the CIS-CAT Pro Assessor Tool. The results of these assessments will be scored on a scale of 1-100, and each item tested will be mapped to the CIS Critical Security Controls. Additionally, the City's router and switch configurations will be evaluated to assess their conformance to CIS Benchmarks for routers and the SANS Institute's Gold Standard for switches.

Summary

Description	Tests				Scoring		
	Pass	Fail	Error	Unkn.	Score	Max	Percent
1 Account Policies	**7**	**2**	**0**	**0**	**7.0**	**9.0**	**78%**
1.1 Password Policy	4	2	0	0	4.0	6.0	67%
1.2 Account Lockout Policy	3	0	0	0	3.0	3.0	100%
2 Local Policies	**103**	**1**	**0**	**0**	**103.0**	**104.0**	**99%**
2.1 Audit Policy	0	0	0	0	0.0	0.0	0%
2.2 User Rights Assignment	39	0	0	0	39.0	39.0	100%
2.3 Security Options	64	1	0	0	64.0	65.0	98%
2.3.1 Accounts	6	0	0	0	6.0	6.0	100%
2.3.2 Audit	2	0	0	0	2.0	2.0	100%
2.3.3 DCOM	0	0	0	0	0.0	0.0	0%
2.3.4 Devices	2	0	0	0	2.0	2.0	100%
2.3.5 Domain controller	0	0	0	0	0.0	0.0	0%
2.3.6 Domain member	6	0	0	0	6.0	6.0	100%
2.3.7 Interactive logon	7	1	0	0	7.0	8.0	88%
2.3.8 Microsoft network client	3	0	0	0	3.0	3.0	100%

Sample Audit of workstation

Active Directory, Group Policy and Password Review

The City's Active Directory structure, Group Policy setup and Password utilization will be reviewed based on the information provided by the internal scan and our direct access to the City's environment. The scanning process will reveal admin and end user access and security privileges, Group Policy activity and configurations, and user password history and updates. This user profile will reveal inherited access to systems or applications if users are put into new roles or groups. Most user access is initially closely controlled during new user setup or a new software/application deployment. Over time as staff changes roles, systems are upgraded or certain projects require additional "higher access" the control over end user access is not maintained. Inherited access or just forgetting to reset privileges after they are no longer needed are major contributors to this security concern. Reporting an evaluation of acceptable access will require input from City sources to determine if the users have the correct access levels for their current roles. The InterDev team will report the access privileges by user and system for review with City of Delray Beach Staff.

Physical Security

Physical Security is an important component in an overall IT Security review. InterDev will review the Physical Security for all City facilities including Public Safety. Controlled access to critical server and networking infrastructure will be reviewed. Secured and monitored access to designated systems within Public Safety is a mandatory component of the Police Department's CJIS Compliance requirements. Camera coverage and facility access will be reviewed for both security and basic employee safety. Camera network integration, monitoring and video retention policies and practices will be reviewed and reported at the city's discretion.

Full time Remote Resource Duties and Responsibilities

The full time remote InterDev resources will perform the initial assessment and reviews listed in the previous sections with coordination from InterDev's headquarters security and engineering staff. These scans will provide the basis for the analysis, evaluations and reporting. This information will be mapped to a security policy framework such as NIST 800-53 or another relevant framework, as well as the Critical Security Controls to come up with a security scorecard for the City. Once the scorecard is established a roadmap can be created to manage, measure and track security improvements.

Day-to-Day Operations

The remote resource will work to compliment the City's existing onsite IT staff. InterDev's security efforts will be performed in a structured, but adaptive manner to move the City's security initiatives forward while still maintaining the services necessary for day-to-day operations. The initial Security Assessment findings will produce the roadmap and prioritize the tasks/issues which should be tackled first. The planning process will take existing projects and initiatives into consideration.

Pricing Table

The following is the cost break down for an Information Technology and GIS Assessment for the City of Delray Beach.

ITEM	COST
Full Time Remote Security Engineer (10-months)	$120,000
Estimated Travel Expenses (5 x 1 week trips)	$7,625
TOTAL – With Estimated Travel	**$127,625**

Taxes

It is understood, that any Federal, State or Local taxes applicable shall be added to each invoice for services or materials rendered under this Agreement. The Client shall pay any such taxes unless a valid exemption certificate is furnished to Service Provider for the State of use.

Travel

It is understood that travel costs will be reimbursed by the City with Hotels and Per Diem paid a current GSA rates and the flight and car rental based on actual rates for direct coach flight from ATL to FLL with a compact car rental.

Disclaimer

IN WITNESS WHEREOF, the parties hereto have caused this Proposal to be signed by their duly authorized representatives as of the date set forth below.

Accepted by:

Authorized Signature/Title	**InterDev, LLC**	**Date**
Authorized Signature/Title	**City of Delray Beach, FL**	**Date**

Security Engineer – Job Description and Qualifications

Develop Information Security Plans and Policies

Information Security Engineers help plan and carry out an organization's information security strategy. They develop a set of security standards and best practices for the organization, and recommend security enhancements to management as needed. They develop strategies to respond to and recover from a security breach. Information Security Engineers are also responsible for educating the workforce on information security through training and building awareness.

Implement Protections

Information Security Engineers install and use software, such as firewalls and data encryption programs, to protect organizations' sensitive information. They also assist computer users with installation or processing of new security products and procedures.

Test for Vulnerabilities

An Information Security Engineer conducts periodic scans of networks to find any vulnerability. They also conduct penetration testing, in which they simulate an attack on the system to highlight or find any weaknesses that might be exploited by a malicious party.

Monitor for Security Breaches

Information Security Engineers must constantly monitor their organization's networks and systems for security breaches or intrusions. They install software that helps to notify them of intrusions, and watch out for irregular system behavior.

Investigate Security Breaches

If a breach has occurred, the Information Security Engineer leads incident response activities to minimize the impact. Afterwards, they lead a technical and forensic investigation into how the breach happened and the extent of the damage. They prepare reports of their findings to be reported to management.

Information Security Engineer Skills

A strong multi-tasker with a keen eye for detail, a successful Information Security Engineer can think one step ahead of criminals. They are well organized and thrive in fast-paced, high-stress scenarios. In addition to these general skills and personality traits, employers are seeking Information Security Engineer candidates with the following skills.

Core skills:

- Direct experience with anti-virus software, intrusion detection, firewalls and content filtering
- Knowledge of risk assessment tools, technologies and methods
- Experience designing secure networks, systems and application architectures
- Knowledge of disaster recovery, computer forensic tools, technologies and methods
- Experience planning, researching and developing security policies, standards and procedures
- Professional experience in a system administration role supporting multiple platforms and applications
- Ability to communicate network security issues to peers and management
- Ability to read and use the results of mobile code, malicious code, and anti-virus software

Advanced skills:

- Strong understanding of endpoint security solutions to include File Integrity Monitoring and Data Loss Prevention
- CISSP Certification
- Ability to pass an FBI background check