



## Information Technology Standards Policy

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### Purpose

Establish standards and guidelines for the City of Snoqualmie Information Technology (IT) environment to ensure the confidentiality, integrity, and availability of computing resources. This document outlines the technology options supported by the City of Snoqualmie and provides guidelines for appropriate use, acquisition, and implementation.

### Scope

This document applies to all IT hardware, software, facilities, applications, and networks that are a part of the City of Snoqualmie's computing resources. The specific technology categories addressed in this policy include:

- Information Protection
- Information Management
- Information Distribution
- Applications
- Network Facility and Environment
- Computing Resources
- Voice Communications

### Responsibilities

Other IT and IS staff under the direction of the IT Manager, Information Technology are responsible for following the procedures and policies within IT.

All City of Snoqualmie employees have the responsibility to act in accordance with City policies and procedures.

### Designations

Each product listed in the tables below is assigned a designation of Standard Product (S), Preferred Product (P), or Guidance Information Only (G).

- **Standard Product:** A product that is in place in most or all instances. It should be the first choice when selecting a product, barring mitigating circumstances (such as plans to upgrade to the next version, for example). It is the product actively supported by the IT department.
- **Preferred Product:** A product that is the target product of a planned upgrade or transition. While not widely deployed, it will become the future Standard Product. IT support exists, but may be immature or in transition.

- **Guidance Information Only:** A product for which no clear standard exists due to the role or pervasiveness of the product in the enterprise, or due to immature or fluctuating market conditions.

## Information Protection

This section includes technologies related to network, data, server, and client machine security.

**\*S=Standard Product(s), P=Preferred Product(s), G=Guidance Information Only**

If the Information Technology Standards and Guidelines policy does not address a specific technical area, the user should seek guidance from the IT Manager, Information Technology.

Information Protection	Policy or Product	S/P/G	Remarks
Enterprise Firewall	Cisco ASA Firewall or equivalent	S	Network Firewall.
Personal Firewall	Sophos Antivirus/Personal Firewall or equivalent	S	Laptops and devices beyond the network perimeter.
Virtual Private Network (VPN)	Cisco VPN or equivalent	S	IPsec deployed from head office.
Anti-Virus for E-mail	Sophos and McAfee Email Antivirus	S	Deployed at head office and hosted
Anti-Virus for Servers/Networks	Sophos Antivirus or equivalent	S	See "Corporate Anti-Virus Policy" for guidance.
Anti-Virus for Clients	Sophos Antivirus or equivalent	S	
Network Access Controller	RADIUS	S	
Routing Table Protection	Cisco	S	
Network Intrusion Detection (NID)	Sophos	S	Currently being researched
Internet Content Filtering and Traffic Monitoring	Astaro or equivalent	S	See "Network Monitoring and Filtering Procedures" for guidance.
Public Key Infrastructure	GoDaddy Certificate Trust	S	SSL Site certificates for Outlook Web Access, Web File Share, etc.

## Information Management

This section includes technologies related to databases and data warehousing, data management, file formats, messaging, and data interfaces.

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Information Management	Policy or Product	S/P/G	Remarks
Relational Database Management Systems <ul style="list-style-type: none"> <li>• ISO SQL</li> <li>• ISO RDA</li> </ul>	MS SQL	G	

Information Management	Policy or Product	S/P/G	Remarks
<ul style="list-style-type: none"> <li>• ODBC 2.0</li> <li>• TOG SQL</li> <li>• TOG RDA</li> <li>• TOG XA</li> <li>• TOG SQL CLI</li> </ul>			
File Formats	IT guidance	G	Follow IT guidance for recommended file extensions.
Data Administration Implementation		G	IT is currently evaluating the use of additional tools in this area.
Information Architecture Implementation		G	Follow IT guidance.
Presentation and Interface Standards <ul style="list-style-type: none"> <li>• Application Standard Interfaces</li> <li>• Mobile Devices</li> </ul>	IT guidance  IT guidance	G  G	IT is currently evaluating the use of Java standards, .NET standards, and Web Services in this area.  WAP, WML, Java.

## Information Distribution

This section includes technologies related to e-mail transmission and file transfer.

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Information Distribution	Policy or Product	S/P/G	Remarks
E-Mail with Attachments <ul style="list-style-type: none"> <li>• SMTP</li> <li>• ActiveSync</li> </ul>	MS Exchange with Outbound SMTP  Supported with "smartphones"	S  S	
File Transfer Service <ul style="list-style-type: none"> <li>• HTTP</li> <li>• FTP</li> </ul>	Follow IT guidance	G	

## Applications

This section includes technologies related to all enterprise applications and client applications.

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Applications	Policy or Product	S/P/G	Remarks
Document Management	Sharepoint	S	
Cooperative Work Applications <ul style="list-style-type: none"> <li>• Collaborative Processing</li> </ul>	Sharepoint	S	At head office.

Applications	Policy or Product	S/P/G	Remarks
<ul style="list-style-type: none"> <li>Workflow</li> <li>Time Tracking</li> <li>Work Request Tracking</li> <li>External File Sharing</li> </ul>	Sharepoint OTRS OTRS Various	S S S	Web-based helpdesk request ticketing system. See "Helpdesk Procedures" for guidance. See IT for guidance.
Website	CivicPlus	G	See IT for guidance.
Web Portal	VMWare View 5+	P	IT is currently evaluating VMWare for functionality and cost-effectiveness.
Office Automation			
<ul style="list-style-type: none"> <li>Tier 1</li> </ul>	MS Office 2016 Professional	S	
	MS Internet Explorer 11 or equivalent	S	
	MS Outlook 2016	S	
	Acrobat Reader	S	
<ul style="list-style-type: none"> <li>Tier 2 &amp; Tier 3</li> </ul>	MS Office 2016 Professional	S	
Engineering and Design	AutoCAD 2016	S	
	Autodesk Volo View 3		
Web Development Tools	MS Visual Studio 2015	S	See "HTML Publishing Policy" for guidance.
Computer Graphics	GIMP	S	
	Adobe Photoshop CS3	S	
Digital Signature	Pending	G	
Application Development Tools	MS Visual Studio 2015+	S	Follow IT guidance
Report Writers	Multiple/DevExpress Dashboard	S	Follow IT guidance for data integrity and access.

## Network Facility and Environment

This section includes technologies related to physical connectivity, wired and wireless networking protocols, naming services, and directory services.

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If the Information Technology Standards & Guidelines do not address a specific technical area, the user should seek guidance from the IT Manager, Information Technology.

Network Facility & Environment	Policy or Product	S/P/G	Remarks
Switches/Hubs (less than 6 years old)	Cisco IOS Switch	S	1000GB or higher

Network Facility & Environment	Policy or Product	S/P/G	Remarks
	PoE (Power of Ethernet)	P	For connection to VOiP phones
Routers (less than 6 years old)	Cisco IOS Router or equivalent		
Cable Media	UTP CAT-6	P	
Patch Panels Interconnection Boxes and Connects	RJ45 for UTP Cable	S	
	Any product meeting ANSI Standards	G	
Physical and Data Link for LANs	Switched Ethernet to desktop	S	1000GB or higher Ethernet backbone.
		P	Gigabit Ethernet backbone.
Network and Transport Layer	IP TCP PPP DHCP	G	
Network Routing Protocol	DHCP	G	
Wireless Access Points (WAP)	802.11i  Wi-Fi Protected Access (WPA)  Advanced Encryption Standard (AES)  VPN  Non-DHCP Routing  Non-Default SSID hardware configuration  Sophos Managed Wireless  Firewall separation between wireless and fixed network segments.	S	No procurement or deployment without IT guidance is permissible.
Network Time Service	NTP	G	Follow IT guidance.
System Monitoring and Control	SNMPv3, WMI, NSClient++ Agent	G	Follow IT guidance.
	Icinga2 Network Monitoring	S	
	Kiwi Syslog	S	
Naming Services Standards	Follow IT guidance	G	
• DNS	Windows Server 2008 R2 or higher (internal)		
Directory Service	Active Directory	P	Follow IT guidance.
• LDAP			

# Computing Resources

This section includes technologies related to client device hardware and operating systems, server hardware and operating systems, storage devices, data backup and recovery solutions, and configuration management.

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Computing Resources	Policy or Product	S/P/G	Remarks
CPU <ul style="list-style-type: none"> <li>• Tier 1</li> <li>• Tier 2</li> <li>• Tier 3</li> </ul>	Intel CPU No Older than 3 Years  Intel CPU No Older than 3 Years  Intel CPU No Older than 2 Years	S  P  G	In general, current IT standards provide a minimum baseline. IT will provision best value desktops that efficiently support the Cascading Refresh Policy.  For specialized requirements (e.g. CFD modeling) seek IT guidance.
Bus Standards	PCI CardBus	G	
Memory (RAM) Standards (EDO, SDRAM, DRAM) <ul style="list-style-type: none"> <li>• Tier 1</li> <li>• Tier 2</li> <li>• Tier 3</li> </ul>	4GB  8GB  8GB+	S  P  G	In general, current IT standards provide a minimum baseline. IT will provision best value desktops that efficiently support the Cascading Refresh Policy.  For specialized requirements (e.g. CFD modeling) seek IT guidance.
I/O Interface Standards <ul style="list-style-type: none"> <li>• SCSI-2</li> <li>• SCSI-3</li> <li>• FC-PH</li> <li>• ESCON</li> <li>• IPI</li> <li>• PC Card</li> <li>• CardBus</li> <li>• Serial</li> <li>• Parallel</li> <li>• USB</li> <li>• FireWire</li> </ul>		G	Follow IT guidance for configuration in conjunction with "IT Application Architecture Standards and Requirements."
Storage Device Media <ul style="list-style-type: none"> <li>• CD-ROM</li> <li>• DVD</li> <li>• USB Key</li> <li>• 4mm DAT</li> <li>• DLT Tape</li> </ul>	Not applicable for Tier 1 or Tier 2 configurations  Not applicable for Tier 1 or Tier 2 configurations	S G G  G	Follow IT guidance in conjunction with "Removable Media and Information Access" policies.

Computing Resources	Policy or Product	S/P/G	Remarks
Disk RAID Levels <ul style="list-style-type: none"> <li>RAID 1,3,4,5,6</li> <li>Tier 1</li> <li>Tier 2</li> <li>Tier 3</li> </ul>	Not applicable Not applicable Follow IT guidance	S S G	RAID 10DP is preferred for maximum resiliency
Server Hardware Configuration	Multiple processors w/ RAID  Follow IT guidance for configuration in conjunction with "IT Application Architecture Standards and Requirements"	P	Based on requirements as outlined by department and IT baselines.
Personal Workstation Operating Systems	Windows 7	S   P  G	Referenced tools have been effectively used by the corporation activities for the listed functions. They may not be the only tools that can be effectively used for these purposes.  Deployed on specific notebook computers. See IT for guidance.  Follow IT guidance for Linux deployment.
Server Operating Systems <ul style="list-style-type: none"> <li>General File &amp; Print Servers</li> <li>Application Servers</li> <li>Network Edge Servers &amp; Appliances</li> </ul>	Windows Server 2012+ Windows Server 2012+ Proprietary OS appliances  Windows Server 2012+ Windows Server 2012+ Ubuntu 12.04 LTS VMware  Secure Unix variants Proprietary OS appliances	S P G  S P G G  G G	Follow IT guidance.  Follow IT guidance. Follow IT guidance. Follow IT guidance.  Network edge devices must follow IT guidance for network security.
Configuration Management	ManageEngine  OTRS	S  S	
Data Backup & Recovery <ul style="list-style-type: none"> <li>Backup &amp; Recovery Software</li> <li>Backup &amp; Recovery Hardware</li> </ul>	Multiple  Unitrends/Netapp	S  S	For guidance visit, IT Network Backup Procedures.

# Voice Communications

This section includes technologies related to telephony hardware, software, and devices.

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Voice Communication	Policy or Product	S/P/G	Remarks
PBX	Nortel	G	At head office
Desktop Sets	Cisco IP Phone	S	
VoiceMail Systems	Cisco Unity	G	
Cellular Handsets	Approved Android or iOS Device	S	See "IT Cellular Phone Policy" for guidance.  Requires specific configurations effecting user and enterprise gateways.