

## TMCEC Cyber Security Training

### Agenda

- I. Why is cyber-security important?
- II. The essential role you play.
- III. Review Texas Computer Security Laws.
- IV. Overview Information Security Threats.
- V. Communications security.
- VI. Computer and network security.
- VII. Physical security.
- VIII. Cyber security best practices.

## **Cyberattacks on State Databases Escalate**

**By Jeffrey Stinson, Stateline.org**

McClatchy-Tribune Information Services

Oct. 02--NASHVILLE, Tenn. -- State governments are facing a daily barrage of cyberattacks from increasingly sophisticated computer hackers. The hackers' rapidly changing tactics threaten the exposure of personal information of millions of citizens and can cost taxpayers millions of dollars to fix.

"We see attacks on Texas' system to the tune of millions a month," said Karen Robinson, Texas' state chief information officer.

Although breaches of Texas' state computers are rare, Robinson said, the risks are high. They can result in the theft of citizens' Social Security numbers, dates of birth, driver's license numbers and even personal and business financial information.

All states are facing a growing number of wide-ranging, quickly evolving attacks, according to a new report released here Wednesday at the start of National Cybersecurity Awareness Month, sponsored by the U.S. Department of Homeland Security and backed by the states.

Despite the threat, the report found, state legislators often don't give their technology and security officials enough money to combat it, and states struggle to retain technologically savvy cybersecurity personnel.

The report, from the National Association of State Chief Information Officers and the consulting firm Deloitte & Touche LLP, said the dangers of insufficient cybersecurity are high--not only for citizens whose personal information can be compromised, but for taxpayers and the public's trust in government.

"These incidents have cost states millions of dollars in clean-up costs, as well as a loss of both revenues and public trust," the report said. "The problem is not likely to go away any time soon, as cybercriminals continue to be drawn to the wealth of data residing in each state."

### **Valuable Data**

State computers hold a treasure trove of personal information. Motor vehicle agencies have citizens' dates of birth and driver's license numbers. Health agencies have people's birth certificates and Social Security numbers. Tax records contain what banks people and businesses have accounts with. States also have credit card numbers from people who have made payments to state agencies.

"You can get pretty much everything on someone out of state computers," said Srini Subramanian, a state cybersecurity specialist with Deloitte who co-authored the report. "It

makes them a very attractive target to cybercriminals."

Recent breaches point up the dangers and the costs:

--Montana notified 1.3 million people in June that their personal data was possibly exposed to hackers in a breach of state Department of Public Health and Human Services computers a year earlier. The state said there was no evidence personal information was stolen but offered free credit monitoring and insurance for a year to those they notified.

--Washington state's court system was hacked in February, exposing up to 160,000 Social Security numbers and a million driver's license numbers. The courts' administration office said some numbers in its computers had definitely been accessed.

--California's Department of Technology reported 7,345 data breaches at state departments and agencies from the beginning of 2013 through early November last year, KNTV television reported. The state had to notify 23,379 individuals that their personal information may have been compromised and spent at least \$5 million to fix the breaches.

Although not every state database has been badly breached, the threat is a daily one. Six out of 10 of the state chief information and security officers from 49 states pointed to greater sophistication in the attacks, the report said. That's an increase from two years ago, when a similar report found roughly half saw more sophisticated tactics.

"Everybody is getting hit daily," said Michael Cockrill, chief information officer for the state of Washington, home to high-tech computer software giant Microsoft and to a large number of computer hackers.

Cockrill, who recently came to his new job from the private high-tech sector, said he's seen reports that as many as 40 percent of cyber-attacks launched in the U.S. originate from inside his state.

### **Looming Threats**

Thieves want the personal information stored by states because it helps enable identity theft that opens greater doors of financial opportunity, the information officers said. That's more valuable than just credit card information, which can be damaging enough.

"Health records are valuable because they have so much information," Cockrill said of the dates of birth and Social Security numbers they can contain. "Health records are worth \$10 on the black market, credit cards a dollar."

Although the report's survey said the security officials' biggest fear is the placement of malicious software code in state computers, other threats are on the rise that can compromise citizens' personal information.

Eight out of 10 of the officers predict an increase in "phishing" and "pharming" for personal or business information, and 72 percent predict more "social engineering" of people--manipulating them into divulging personal information or tricking them into schemes to defraud them.

Phishing attacks usually involve fraudulent e-mail messages that guide victims to a fake website that looks legitimate, but which is designed to obtain personal information such as passwords to their financial accounts.

Pharming redirects people from a legitimate website that's been tampered with to another site that is fake, although it looks like the legitimate site.

"It's the user who can be the window into the system," Texas' Robinson said.

That means state employees, as well as citizens, must be vigilant and wary--and informed about the latest tactics. In Texas, 336,000 state employees have to be trained to be careful, Robinson said.

Also on the rise is "hacktivism," the hacking into government computers to make a social statement, cause mayhem or provide a platform for activist groups to gain exposure.

"They aren't after financial gains," Deloitte's Subramanian said. "They want to make a statement. And what's a better place to make a statement than on a state government site."

One example, he said, is Ferguson, Missouri, where police computers and those of police unions were attacked by activists seeking the identity of the officer involved in the racially charged shooting this summer that set off nights of civil unrest.

## **Unprepared**

Only 24.5 percent of the information and security officers said they were "very confident" they could protect against cyber threats, the report found. That's little different from two years ago, when 24 percent said the same thing.

In contrast, 60 percent of officials in the state departments and agencies that the information technology officers serve say they are very confident in their states' abilities to protect them.

That disconnection between the information technology people on the front lines and other state officials helps explain why states aren't putting as much money into cybersecurity as they should, Subramanian said.

About half the states allocate only 1 percent to 2 percent of their information technology budgets to security, the report said. The federal government, by contrast, allocates about 11

percent, Cockrill said.

States rely in large part on outside security software companies to help protect and police their computer systems. And despite their increased sophistication in surveillance, protection and response, most state officers said they are only somewhat confident in their cybersecurity.

States also have trouble getting and hanging onto trained cybersecurity personnel.

Fifty-nine percent of the officers surveyed for the report said they are short on trained people. That's up from the 46 percent who said so two years ago.

The officers say states simply cannot pay as much as the private sector. That's especially true in high-tech Washington.

"We've been hiring people from Eastern Europe to provide security," Cockrill said. "We're a training ground for the private sector. They come, they get trained and get paid twice as much or more in the private sector."

To recruit new security analysts, Cockrill is turning to military veterans. With some grant money, he's seeking to give them computer skills to supplement the security and threat analysis experience they have from their military service. To retain them, he said, he'll have to appeal to their sense of duty, because he can't pay salaries nearly as high as what is available in the private sector.

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## IT Acronyms

<a href="#">ACL</a>	Access Control List
<a href="#">ADC</a>	Analog-to-Digital Converter
<a href="#">ADF</a>	Automatic Document Feeder
<a href="#">ADSL</a>	Asymmetric Digital Subscriber Line
<a href="#">AGP</a>	Accelerated Graphics Port
<a href="#">AIFF</a>	Audio Interchange File Format
<a href="#">AIX</a>	Advanced Interactive Executive
<a href="#">ALU</a>	Arithmetic Logic Unit
<a href="#">ANSI</a>	American National Standards Institute
<a href="#">API</a>	Application Program Interface
<a href="#">APU</a>	Accelerated Processing Unit
<a href="#">ARP</a>	Address Resolution Protocol
<a href="#">ASCII</a>	American Standard Code for Information Interchange
<a href="#">ASP</a>	Active Server Page or Application Service Provider
<a href="#">ATA</a>	Advanced Technology Attachment
<a href="#">ATM</a>	Asynchronous Transfer Mode
<a href="#">AUP</a>	Acceptable Use Policy
<a href="#">Bash</a>	Bourne-Again Shell
<a href="#">BASIC</a>	Beginner's All-purpose Symbolic Instruction Code
<a href="#">Bcc</a>	Blind Carbon Copy
<a href="#">BIOS</a>	Basic Input/Output System
<a href="#">Blob</a>	Binary Large Object
<a href="#">BMP</a>	Bitmap
<a href="#">BSOD</a>	Blue Screen of Death
<a href="#">CAD</a>	Computer-Aided Design
<a href="#">Cc</a>	Carbon Copy
<a href="#">CCD</a>	Charged Coupled Device
<a href="#">CD</a>	Compact Disc
<a href="#">CD-R</a>	Compact Disc Recordable
<a href="#">CD-ROM</a>	Compact Disc Read-Only Memory
<a href="#">CD-RW</a>	Compact Disc Re-Writable
<a href="#">CDFS</a>	Compact Disc File System
<a href="#">CDMA</a>	Code Division Multiple Access
<a href="#">CDN</a>	Content Delivery Network
<a href="#">CGI</a>	Common Gateway Interface

<a href="#"><u>CISC</u></a>	Complex Instruction Set Computing
<a href="#"><u>CLOB</u></a>	Character Large Object
<a href="#"><u>CMOS</u></a>	Complementary Metal Oxide Semiconductor
<a href="#"><u>CMS</u></a>	Content Management System
<a href="#"><u>CMYK</u></a>	Cyan Magenta Yellow Black
<a href="#"><u>CPA</u></a>	Cost Per Action
<a href="#"><u>CPC</u></a>	Cost Per Click
<a href="#"><u>CPL</u></a>	Cost Per Lead
<a href="#"><u>CPM</u></a>	Cost Per 1,000 Impressions
<a href="#"><u>CPS</u></a>	Classroom Performance System
<a href="#"><u>CPU</u></a>	Central Processing Unit
<a href="#"><u>CRM</u></a>	Customer Relationship Management
<a href="#"><u>CRT</u></a>	Cathode Ray Tube
<a href="#"><u>CSS</u></a>	Cascading Style Sheet
<a href="#"><u>CTP</u></a>	Composite Theoretical Performance
<a href="#"><u>CTR</u></a>	Click-Through Rate
<a href="#"><u>DAC</u></a>	Digital-to-Analog Converter
<a href="#"><u>DAW</u></a>	Digital Audio Workstation
<a href="#"><u>DBMS</u></a>	Database Management System
<a href="#"><u>DCIM</u></a>	Digital Camera Images
<a href="#"><u>DDL</u></a>	Data Definition Language
<a href="#"><u>DDR</u></a>	Double Data Rate
<a href="#"><u>DDR2</u></a>	Double Data Rate 2
<a href="#"><u>DDR3</u></a>	Double Data Rate Type 3
<a href="#"><u>DFS</u></a>	Distributed File System
<a href="#"><u>DHCP</u></a>	Dynamic Host Configuration Protocol
<a href="#"><u>DIMM</u></a>	Dual In-Line Memory Module
<a href="#"><u>DLC</u></a>	Downloadable Content
<a href="#"><u>DLL</u></a>	Dynamic Link Library
<a href="#"><u>DMA</u></a>	Direct Memory Access
<a href="#"><u>DNS</u></a>	Domain Name System
<a href="#"><u>DOS</u></a>	Disk Operating System
<a href="#"><u>DPI</u></a>	Dots Per Inch
<a href="#"><u>DRAM</u></a>	Dynamic Random Access Memory
<a href="#"><u>DRM</u></a>	Digital Rights Management
<a href="#"><u>DSL</u></a>	Digital Subscriber Line

<a href="#"><u>DSLAM</u></a>	Digital Subscriber Line Access Multiplexer
<a href="#"><u>DTD</u></a>	Document Type Definition
<a href="#"><u>DV</u></a>	Digital Video
<a href="#"><u>DVD</u></a>	Digital Versatile Disc
<a href="#"><u>DVD+R</u></a>	Digital Versatile Disc Recordable
<a href="#"><u>DVD+RW</u></a>	Digital Versatile Disk Rewritable
<a href="#"><u>DVD-R</u></a>	Digital Versatile Disc Recordable
<a href="#"><u>DVD-RAM</u></a>	Digital Versatile Disc Random Access Memory
<a href="#"><u>DVD-RW</u></a>	Digital Versatile Disk Rewritable
<a href="#"><u>DVI</u></a>	Digital Video Interface
<a href="#"><u>DVR</u></a>	Digital Video Recorder
<a href="#"><u>ECC</u></a>	Error Correction Code
<a href="#"><u>EDI</u></a>	Electronic Data Interchange
<a href="#"><u>EIDE</u></a>	Enhanced Integrated Drive Electronics
<a href="#"><u>EPS</u></a>	Encapsulated PostScript
<a href="#"><u>EUP</u></a>	Enterprise Unified Process
<a href="#"><u>EXIF</u></a>	Exchangeable Image File Format
<a href="#"><u>FAQ</u></a>	Frequently Asked Questions
<a href="#"><u>FDDI</u></a>	Fiber Distributed Data Interface
<a href="#"><u>FIFO</u></a>	First In, First Out
<a href="#"><u>FILO</u></a>	First In, Last Out
<a href="#"><u>FiOS</u></a>	Fiber Optic Service
<a href="#"><u>FLOPS</u></a>	Floating Point Operations Per Second
<a href="#"><u>FPU</u></a>	Floating Point Unit
<a href="#"><u>FSB</u></a>	Frontside Bus
<a href="#"><u>FTP</u></a>	File Transfer Protocol
<a href="#"><u>Gbps</u></a>	Gigabits Per Second
<a href="#"><u>GIF</u></a>	Graphics Interchange Format
<a href="#"><u>GIGO</u></a>	Garbage In, Garbage Out
<a href="#"><u>GIS</u></a>	Geographic Information Systems
<a href="#"><u>GPIO</u></a>	General Purpose Input/Output
<a href="#"><u>GPS</u></a>	Global Positioning System
<a href="#"><u>GPU</u></a>	Graphics Processing Unit
<a href="#"><u>GUI</u></a>	Graphical User Interface
<a href="#"><u>GUID</u></a>	Globally Unique Identifier
<a href="#"><u>HDD</u></a>	Hard Disk Drive



<a href="#"><u>HDMI</u></a>	High-Definition Multimedia Interface
<a href="#"><u>HDTV</u></a>	High Definition Television
<a href="#"><u>HDV</u></a>	High-Definition Video
<a href="#"><u>HFS</u></a>	Hierarchical File System
<a href="#"><u>HSF</u></a>	Heat Sink and Fan
<a href="#"><u>HTML</u></a>	Hyper-Text Markup Language
<a href="#"><u>HTTP</u></a>	HyperText Transfer Protocol
<a href="#"><u>HTTPS</u></a>	HyperText Transport Protocol Secure
<a href="#"><u>I/O</u></a>	Input/Output
<a href="#"><u>ICANN</u></a>	Internet Corporation For Assigned Names and Numbers
<a href="#"><u>ICF</u></a>	Internet Connection Firewall
<a href="#"><u>ICMP</u></a>	Internet Control Message Protocol
<a href="#"><u>ICS</u></a>	Internet Connection Sharing
<a href="#"><u>ICT</u></a>	Information and Communication Technologies
<a href="#"><u>IDE</u></a>	Integrated Device Electronics or Integrated Development Environment
<a href="#"><u>IDS</u></a>	Intrusion Detection System
<a href="#"><u>IEEE</u></a>	Institute of Electrical and Electronics Engineers
<a href="#"><u>IGP</u></a>	Integrated Graphics Processor
<a href="#"><u>IIS</u></a>	Internet Information Services
<a href="#"><u>IM</u></a>	Instant Message
<a href="#"><u>IMAP</u></a>	Internet Message Access Protocol
<a href="#"><u>InterNIC</u></a>	Internet Network Information Center
<a href="#"><u>IP</u></a>	Internet Protocol
<a href="#"><u>IPS</u></a>	Intrusion Prevention System
<a href="#"><u>IPX</u></a>	Internetwork Packet Exchange
<a href="#"><u>IRC</u></a>	Internet Relay Chat
<a href="#"><u>IRQ</u></a>	Interrupt Request
<a href="#"><u>ISA</u></a>	Industry Standard Architecture
<a href="#"><u>iSCSI</u></a>	Internet Small Computer Systems Interface
<a href="#"><u>ISDN</u></a>	Integrated Services Digital Network
<a href="#"><u>ISO</u></a>	International Organization for Standardization
<a href="#"><u>ISP</u></a>	Internet Service Provider
<a href="#"><u>IT</u></a>	Information Technology
<a href="#"><u>IVR</u></a>	Interactive Voice Response
<a href="#"><u>JFS</u></a>	Journaled File System
<a href="#"><u>JPEG</u></a>	Joint Photographic Experts Group

<a href="#"><u>JRE</u></a>	Java Runtime Environment
<a href="#"><u>JSF</u></a>	JavaServer Faces
<a href="#"><u>JSON</u></a>	JavaScript Object Notation
<a href="#"><u>JSP</u></a>	Java Server Page
<a href="#"><u>Kbps</u></a>	Kilobits Per Second
<a href="#"><u>KDE</u></a>	K Desktop Environment
<a href="#"><u>KVM Switch</u></a>	Keyboard, Video, and Mouse Switch
<a href="#"><u>LAMP</u></a>	Linux, Apache, MySQL, and PHP
<a href="#"><u>LAN</u></a>	Local Area Network
<a href="#"><u>LCD</u></a>	Liquid Crystal Display
<a href="#"><u>LDAP</u></a>	Lightweight Directory Access Protocol
<a href="#"><u>LED</u></a>	Light-Emitting Diode
<a href="#"><u>LIFO</u></a>	Last In, First Out
<a href="#"><u>LPI</u></a>	Lines Per Inch
<a href="#"><u>LTE</u></a>	Long Term Evolution
<a href="#"><u>LUN</u></a>	Logical Unit Number
<a href="#"><u>MAC Address</u></a>	Media Access Control Address
<a href="#"><u>MAMP</u></a>	Mac OS X, Apache, MySQL, and PHP
<a href="#"><u>MANET</u></a>	Mobile Ad Hoc Network
<a href="#"><u>Mbps</u></a>	Megabits Per Second
<a href="#"><u>MBR</u></a>	Master Boot Record
<a href="#"><u>MCA</u></a>	Micro Channel Architecture
<a href="#"><u>MDI</u></a>	Medium Dependent Interface
<a href="#"><u>MIDI</u></a>	Musical Instrument Digital Interface
<a href="#"><u>MIPS</u></a>	Million Instructions Per Second
<a href="#"><u>MIS</u></a>	Management Information System
<a href="#"><u>MMS</u></a>	Multimedia Messaging Service
<a href="#"><u>MP3</u></a>	MPEG-1 Audio Layer-3
<a href="#"><u>MPEG</u></a>	Moving Picture Experts Group
<a href="#"><u>MTU</u></a>	Maximum Transmission Unit
<a href="#"><u>NAT</u></a>	Network Address Translation
<a href="#"><u>NetBIOS</u></a>	Network Basic Input/Output System
<a href="#"><u>NIC</u></a>	Network Interface Card
<a href="#"><u>NNTP</u></a>	Network News Transfer Protocol
<a href="#"><u>NOC</u></a>	Network Operations Center
<a href="#"><u>NSP</u></a>	Network Service Provider

<a href="#"><u>NTFS</u></a>	New Technology File System
<a href="#"><u>NUI</u></a>	Natural User Interface
<a href="#"><u>NVRAM</u></a>	Non-Volatile Random Access Memory
<a href="#"><u>OASIS</u></a>	Organization for the Advancement of Structured Information Standards
<a href="#"><u>OCR</u></a>	Optical Character Recognition
<a href="#"><u>ODBC</u></a>	Open Database Connectivity
<a href="#"><u>OEM</u></a>	Original Equipment Manufacturer
<a href="#"><u>OLAP</u></a>	Online Analytical Processing
<a href="#"><u>OLE</u></a>	Object Linking and Embedding
<a href="#"><u>OLED</u></a>	Organic Light Emitting Diode
<a href="#"><u>OOP</u></a>	Object-Oriented Programming
<a href="#"><u>OSD</u></a>	On Screen Display
<a href="#"><u>OSPF</u></a>	Open Shortest Path First
<a href="#"><u>P2P</u></a>	Peer To Peer
<a href="#"><u>PC</u></a>	Personal Computer
<a href="#"><u>PCB</u></a>	Printed Circuit Board
<a href="#"><u>PCI</u></a>	Peripheral Component Interconnect
<a href="#"><u>PCI-X</u></a>	Peripheral Component Interconnect Extended
<a href="#"><u>PCMCIA</u></a>	Personal Computer Memory Card International Association
<a href="#"><u>PDA</u></a>	Personal Digital Assistant
<a href="#"><u>PDF</u></a>	Portable Document Format
<a href="#"><u>PHP</u></a>	Hypertext Preprocessor
<a href="#"><u>PIM</u></a>	Personal Information Manager
<a href="#"><u>PMU</u></a>	Power Management Unit
<a href="#"><u>PNG</u></a>	Portable Network Graphic
<a href="#"><u>PON</u></a>	Passive Optical Network
<a href="#"><u>POP3</u></a>	Post Office Protocol
<a href="#"><u>POST</u></a>	Power On Self Test
<a href="#"><u>PPC</u></a>	Pay Per Click
<a href="#"><u>PPGA</u></a>	Plastic Pin Grid Array
<a href="#"><u>PPI</u></a>	Pixels Per Inch
<a href="#"><u>PPL</u></a>	Pay Per Lead
<a href="#"><u>PPM</u></a>	Pages Per Minute
<a href="#"><u>PPP</u></a>	Point to Point Protocol
<a href="#"><u>PPPoE</u></a>	Point-to-Point Protocol over Ethernet
<a href="#"><u>PPS</u></a>	Pay Per Sale

<a href="#"><u>PPTP</u></a>	Point-to-Point Tunneling Protocol
<a href="#"><u>PRAM</u></a>	Parameter Random Access Memory
<a href="#"><u>PROM</u></a>	Programmable Read-Only Memory
<a href="#"><u>PS/2</u></a>	Personal System/2
<a href="#"><u>PUM</u></a>	Potentially Unwanted Modification
<a href="#"><u>PUP</u></a>	Potentially Unwanted Program
<a href="#"><u>QBE</u></a>	Query By Example
<a href="#"><u>RAID</u></a>	Redundant Array of Independent Disks
<a href="#"><u>RAM</u></a>	Random Access Memory
<a href="#"><u>RDF</u></a>	Resource Description Framework
<a href="#"><u>RDRAM</u></a>	Rambus Dynamic Random Access Memory
<a href="#"><u>RFID</u></a>	Radio-Frequency Identification
<a href="#"><u>RGB</u></a>	Red Green Blue
<a href="#"><u>RISC</u></a>	Reduced Instruction Set Computing
<a href="#"><u>ROM</u></a>	Read-Only Memory
<a href="#"><u>RPC</u></a>	Remote Procedure Call
<a href="#"><u>RPM</u></a>	Revenue Per 1,000 Impressions
<a href="#"><u>RSS</u></a>	RDF Site Summary
<a href="#"><u>RTE</u></a>	Runtime Environment
<a href="#"><u>RTF</u></a>	Rich Text Format
<a href="#"><u>RUP</u></a>	Rational Unified Process
<a href="#"><u>SaaS</u></a>	Software as a Service
<a href="#"><u>SAN</u></a>	Storage Area Network
<a href="#"><u>SATA</u></a>	Serial Advanced Technology Attachment
<a href="#"><u>SCSI</u></a>	Small Computer System Interface
<a href="#"><u>SD</u></a>	Secure Digital
<a href="#"><u>SDK</u></a>	Software Development Kit
<a href="#"><u>SDRAM</u></a>	Synchronous Dynamic Random Access Memory
<a href="#"><u>SDSL</u></a>	Symmetric Digital Subscriber Line
<a href="#"><u>SEO</u></a>	Search Engine Optimization
<a href="#"><u>SERP</u></a>	Search Engine Results Page
<a href="#"><u>SIMM</u></a>	Single In-Line Memory Module
<a href="#"><u>SIP</u></a>	Session Initiation Protocol
<a href="#"><u>SKU</u></a>	Stock Keeping Unit
<a href="#"><u>SLA</u></a>	Software License or Service Level Agreement
<a href="#"><u>SLI</u></a>	Scalable Link Interface

<a href="#"><u>SMART</u></a>	Self-Monitoring Analysis And Reporting Technology
<a href="#"><u>SMB</u></a>	Server Message Block
<a href="#"><u>SMM</u></a>	Social Media Marketing
<a href="#"><u>SMS</u></a>	Short Message Service
<a href="#"><u>SMTP</u></a>	Simple Mail Transfer Protocol
<a href="#"><u>SNMP</u></a>	Simple Network Management Protocol
<a href="#"><u>SO-DIMM</u></a>	Small Outline Dual In-Line Memory Module
<a href="#"><u>SOA</u></a>	Service Oriented Architecture
<a href="#"><u>SOAP</u></a>	Simple Object Access Protocol
<a href="#"><u>SQL</u></a>	Structured Query Language
<a href="#"><u>SRAM</u></a>	Static Random Access Memory
<a href="#"><u>sRGB</u></a>	Standard Red Green Blue
<a href="#"><u>SSD</u></a>	Solid State Drive
<a href="#"><u>SSH</u></a>	Secure Shell
<a href="#"><u>SSID</u></a>	Service Set Identifier
<a href="#"><u>SSL</u></a>	Secure Sockets Layer
<a href="#"><u>TCP/IP</u></a>	Transmission Control Protocol/Internet Protocol
<a href="#"><u>TFT</u></a>	Thin-Film Transistor
<a href="#"><u>TIFF</u></a>	Tagged Image File Format
<a href="#"><u>TTL</u></a>	Time To Live
<a href="#"><u>TWAIN</u></a>	Toolkit Without An Informative Name
<a href="#"><u>UAT</u></a>	User Acceptance Testing
<a href="#"><u>UDDI</u></a>	Universal Description Discovery and Integration
<a href="#"><u>UDP</u></a>	User Datagram Protocol
<a href="#"><u>UGC</u></a>	User Generated Content
<a href="#"><u>UML</u></a>	Unified Modeling Language
<a href="#"><u>UNC</u></a>	Universal Naming Convention
<a href="#"><u>UPnP</u></a>	Universal Plug and Play
<a href="#"><u>UPS</u></a>	Uninterruptible Power Supply
<a href="#"><u>URI</u></a>	Uniform Resource Identifier
<a href="#"><u>URL</u></a>	Uniform Resource Locator
<a href="#"><u>USB</u></a>	Universal Serial Bus
<a href="#"><u>UTF</u></a>	Unicode Transformation Format
<a href="#"><u>VCI</u></a>	Virtual Channel Identifier
<a href="#"><u>VDSL</u></a>	Very High Bit Rate Digital Subscriber Line
<a href="#"><u>VDU</u></a>	Visual Display Unit

<a href="#"><u>VFAT</u></a>	Virtual File Allocation Table
<a href="#"><u>VGA</u></a>	Video Graphics Array
<a href="#"><u>VLB</u></a>	VESA Local Bus
<a href="#"><u>VLE</u></a>	Virtual Learning Environment
<a href="#"><u>VoIP</u></a>	Voice Over Internet Protocol
<a href="#"><u>VPI</u></a>	Virtual Path Identifier
<a href="#"><u>VPN</u></a>	Virtual Private Network
<a href="#"><u>VRAM</u></a>	Video Random Access Memory
<a href="#"><u>VRML</u></a>	Virtual Reality Modeling Language
<a href="#"><u>W3C</u></a>	World Wide Web Consortium
<a href="#"><u>WAIS</u></a>	Wide Area Information Server
<a href="#"><u>WAMP</u></a>	Windows, Apache, MySQL, and PHP
<a href="#"><u>WAN</u></a>	Wide Area Network
<a href="#"><u>WDDM</u></a>	Windows Display Driver Model
<a href="#"><u>WEP</u></a>	Wired Equivalent Privacy
<a href="#"><u>Wi-Fi</u></a>	Wireless Fidelity
<a href="#"><u>WINS</u></a>	Windows Internet Name Service
<a href="#"><u>WPA</u></a>	Wi-Fi Protected Access
<a href="#"><u>WWW</u></a>	World Wide Web
<a href="#"><u>XHTML</u></a>	Extensible Hypertext Markup Language
<a href="#"><u>XML</u></a>	Extensible Markup Language
<a href="#"><u>XMP</u></a>	Extensible Metadata Platform
<a href="#"><u>XSLT</u></a>	Extensible Style Sheet Language Transformation
<a href="#"><u>ZIF</u></a>	Zero Insertion Force