SecureLogix Patent Portfolio

SecureLogix Owns One of the World's Most Innovative and Comprehensive Telecommunications Security, Monitoring, and Management Patent Portfolios

Overview

In 1998, SecureLogix began building an intellectual property portfolio by filing their first patent application entitled *Telephony Security System*. Subsequently, SecureLogix's first patent application parented many Continuation and Continuation-In-Part patent applications. The company's current patent portfolio includes 16 U.S. and international patents, with over 500 patent claims. These patents are the foundation of a pioneering intellectual property portfolio protecting the technologies developed by SecureLogix for their enterprise telephony management product, the ETM® System.

Each of SecureLogix's 16 patents protect inventions within one of 3 technology groups: Telephony security, monitoring, and usage reporting; Policy-based autonomous telephony encryption; and Integrated telephony resource vulnerability assessment and management.

Telephony security, monitoring, and usage reporting

One group of 13 SecureLogix patents (US 6,249,575 B1, US 6,320,948 B1, US 6,687,353 B1, US 6,718,024 B1, US 6,760,420 B2, US 6,760,421 B2, US 7,133,511 B2, US 7,440,558 B2, US 8,150,013 B2, CA 2,354,149, DE 1415459 B1, FR 1415459 B1, and GB 1415459 B1), contains 408 claims on inventions incorporated into the ETM System. They describe systems and methods of telephony resource monitoring, management, and security for call traffic, whether packet-switched or circuit-switched, within or between enterprise or public networks. Aspects of one or more of the patents include:

- Defining a policy made up of one or more rules designating actions to be performed based upon at least one designated attribute of a call.

- Sensing and analyzing calls to determine attributes associated with each call. Determined call attributes include: the call direction, source, destination, call type, keyword detected in the call content, call connect time, call start date, call start time, call end date, call end time, call duration, identifier for the extension or direct connect line carrying the call, PBX trunk through which the call is processed, channel through which the call is processed, digits dialed prior to the base phone number, digits dialed after the base phone number, codec used, number of bytes from the call source, number of bytes from the call destination, number of packets from the call source, number of packets from the call destination, source transmission rate, destination

transmission rate, source latency, destination latency, source jitter, destination jitter, source packet loss, destination packet loss, and total bandwidth used. Discriminated call types include: voice, fax, data transfer (modem), STU-III-voice, STU-III-data, STU-III-unspecified, wideband, wideband video, IP voice, busy, and unanswered.

- Performing actions based upon the determined attributes and in accordance with the policy. Performed actions may include: allowing the call, denying the call, redirecting the call, recording the call content, encrypting the call, sending a tone, sending a message, logging the call, generating a report, generating an alert, automatically adjusting the policy rule based upon determined attributes, authenticating an inbound call for remote access, and monitoring the call content for keywords. Automatically adjusting the policy rule alters the way future calls to/from that extension are handled, pursuant to the policy. Additional actions may be performed responsive to results from attempting to encrypt a call, authenticate remote access, or monitor call content for keywords.

Within this group of 13 SecureLogix patents, systems and methods for both discriminating between call types and continuing to enforce the policy against an allowed call (discriminating call type changes after the call is connected), are described.

Additionally, means for bringing an inline device online and gaining control of a call without disrupting call traffic is described.

Further, a system is described for incorporating use of CTI (Computer Telephony Integration), where a PBX provides certain call attributes to the system and may be commanded by the system to perform actions in accordance with the policy.

Policy-based autonomous telephony encryption

A second group of 2 SecureLogix patents (US 6,879,671 B1, and US 7,231,027 B2), contains 54 claims on technologies developed for a TeleVPN® module for use by the ETM System. These patents describe systems and methods of autonomously constructing an operator-transparent virtual private switched telecommunications network between geographically separate locations to provide secure access across an untrusted public switched telephone network. Aspects of one or more of the patents include:

- Defining a policy made up of one or more rules designating actions to be performed based upon at least one designated attribute of a call, including the action of conducting a call in a secure mode using a VoIP-compatible packet for transport over the PSTN.

- Sensing and analyzing calls to determine attributes associated with each call. Determined call attributes include: the call direction, call source number, call destination number, call type, identifier for the extension or direct connect line carrying the call, the channel through which the call is processed, start date of call, start time of call, end date of call, end time of call, call duration, the trunk group through which the call is processed, digits dialed prior to the base

phone number, digits dialed after the base phone number, caller ID identifier, call connect time, keywords detected in the call content, and the digits dialed after call connect.

- Intercepting, identifying, modifying, and forwarding the setup message of a call identified by the security policy to be conducted in a secure mode. This includes using a secure mode selected from a predetermined set of secure modes, determining if both called and calling parties are capable of supporting the selected encrypted communications, and modifying a voice call set-up to include a request for bearer capability to support a data call.

- Initiating another call using an alternate secure mode selected from a predetermined set of secure modes, should a prior attempt to place the call fail, and initiating encryption of a voice call in a voice secure mode should all attempts at placing the voice call as a data call fail.

- Performing at least one additional action responsive to the success or failure to encrypt a call. The additional action may include: allowing or denying the call, generating a report, generating an alert, adjusting the security policy, sending a tone, sending a message, and logging the call. Adjusting the policy rule is based upon determined attributes, including whether called or calling parties are capable of supporting encrypted communications.

Additionally, a system is described for incorporating use of CTI, where a PBX provides certain call attributes to the system and is commanded by the system to perform actions, which may include encrypting communications.

Integrated telephony resource vulnerability assessment and management

Lastly, the SecureLogix patent US 6,226,372 B1 contains 71 claims on technologies within a fully integrated and cooperative telecommunications firewall and scanner. This patent describes systems and methods of implementing cooperative monitoring, vulnerability assessment, and management of telephony resources to ensure implementation of corporate-dictated security structure, event visibility, and report consolidation requirements across a globally distributed enterprise. Aspects of the patent include:

- Defining a security policy made up of a security rule base designating actions to be performed based upon at least one attribute of a call, and a results response policy designating actions to be performed based upon results of a vulnerability assessment performed on an extension. The same security policy is used by both the firewall and the scanner components during both their cooperative and their independent operations.

- Determining attributes associated with a call.

- Performing actions based upon the determined call attributes and in accordance with the security policy. Performed actions may include: allowing the call, denying the call, performing a vulnerability assessment, redirecting the call, logging the call, and notifying designated personnel. A vulnerability assessment may include attempting to detect, identify, and penetrate a modem connected to the extension. Additionally, a vulnerability assessment may be initiated

by an administrator as a regularly scheduled or manual event, independent of similar assessment actions performed based upon determined call attributes.

- Performing actions based upon results of a vulnerability assessment, in accordance with results response policy rules. Actions include: updating the security policy, logging the vulnerability assessment results, and notifying designated personnel.

- Consolidating firewall and scanner actions, assessment results, and responses in detailed or summary reports.

Further, systems and methods are described for deployment of the integrated and cooperative telecommunications firewall/scanner either as a standalone device, or over large-scale distributed client-server architecture.

A system is also described for incorporating use of CTI, where a PBX provides certain call attributes to the system and is commanded by the system to perform certain actions.

Summary

In addition to the 3 groups of SecureLogix patents discussed above, SecureLogix's patent portfolio also contains several pending U.S. and international patent applications. For over ten years, SecureLogix has pioneered the development of solutions to secure voice networks from attack and abuse, and simplify usage reporting and network management. Many of these inventions are patented in the U.S. and abroad, and provide SecureLogix a substantial portfolio of unique voice security and management solutions that can only be enjoyed by the company's customers and authorized business partners.

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