ShoreTel

Practical vendor integration with SIP -

Handling interoperability issues

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Product Management

THE INNOVATION LEADER IN
ENTERPRISE IP TELEPHONY

Today’s Agenda

- ShoreTel’s philosophy on integration
- The issues
- ShoreTel approach on SIP extensions & trunks

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ShoreTel's philosophy on integration

- Provide partners and customers with validated 'end to end' multi-vendor solutions in the SIP 'plug and pray' era
  - Making it all work together is as complex as solving a third order differential equation
  - Allow ShoreTel partners to work with 'known entities'
  - One visit to the customer's site

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ShoreTel's philosophy on integration

- *Provide partners and customers with validated 'end to end' multi-vendor solutions in the SIP 'plug and pray' era*

ShoreTel Technology Partner Program - Mission

Enable ShoreTel Reseller Partners to deliver complete business solutions to end customers with confidence

- Products undergo mutual validation testing to check compatibility
- We have validated interworking with 8 SIP carriers
- There are 20 ITSPs in the pipeline

•Ingate **and** Bandwidth.com **are TPP certified partners**

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Provide a consistent ‘traversal’ solution

- Maintain Product Certifications
  - Dedicated Lab and Engineers
  - Re-certification for each of ShoreTel major releases within 90 days of the release
  - Re-certification of each major release of the partner’s product within 90 days of the release
  - Application note produced detailing validated ShoreTel-partner configuration
- With Ingate we solve SIP firewall and NAT traversal issues with a consistent solution
  - The ‘solution’ is secure

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ShoreTel Technology Partner Program

Mission

Enable ShoreTel Reseller Partners to deliver complete business solutions to end customers with confidence

<table>
<tr><td>ShoreTel®</td><td>bandwidth.com</td><td>TPP APP NOTE
TPP-10021 Date: August 8, 2007</td></tr>
<tr><td colspan="2">Product: ShoreTel® | Ingate | Bandwidth.com</td><td>System version: ShoreTel 6.1 &amp; 7</td></tr>
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ShoreTel, Ingate & Bandwidth.com for SIP Trunking

SIP Trunking allows the use of Session Initiation Protocol (SIP) communications from an Internet Telephony Service Provider (ITSP) instead of the typical analog, Basic Rate Interface (BRI), T1 or E1 trunk connections. Having the pure IP trunk to the Internet Telephone Service Provider allows for more control and options over the communication link. This application note provides the details on connecting the ShoreTel IP phone system through an Ingate box which is connected to both the LAN and WAN and acts as a gateway to the ITSP for SIP Trunking.

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Allow ‘customization’ of configuration settings

- Provide a mechanism for feature update
  - Don’t want to wait for a ‘release change’ to allow a new configuration
- Allow ‘customization’ of configuration settings for 3rd party devices & trunks in our management interface
  - Understand things change
  - Be sure you can get back to a working configuration
- Make it as plug and play as possible
- Allow for customer additions
  - VARS or Customers may want to ‘risk’ trying something out themselves
  - Ensure we can get can back to a supported configuration after customer modification

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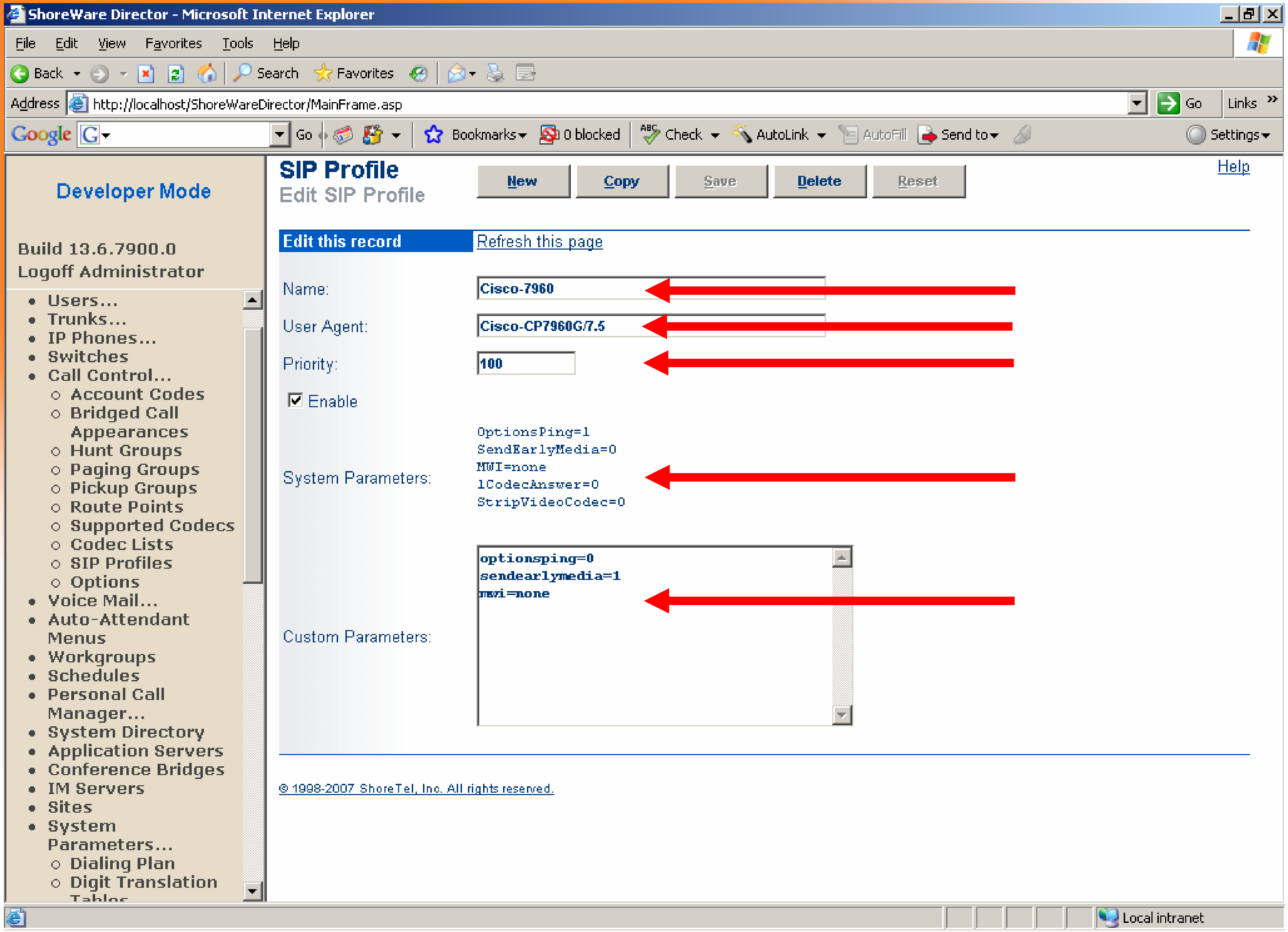

SIP Profile

Edit SIP Profile

Name:	Cisco-7960
User Agent:	Cisco-CP7960G/7.5
Priority:	100

☑ Enable

System Parameters:

```
OptionsPing=1
SendEarlyMedia=0
MWI=none
1CodecAnswer=0
StripVideoCodec=0
```

Custom Parameters:

```
optionsping=0
sendearlymedia=1
mwi=none
```

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Summary

- SIP trunks and end points can inter-work in the ‘plug and pray’ era
- There are many flavors or SIP out there be sure you only use those validated by the vendors as working together
- Ensure vendors have published information on support parameters

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THANK YOU

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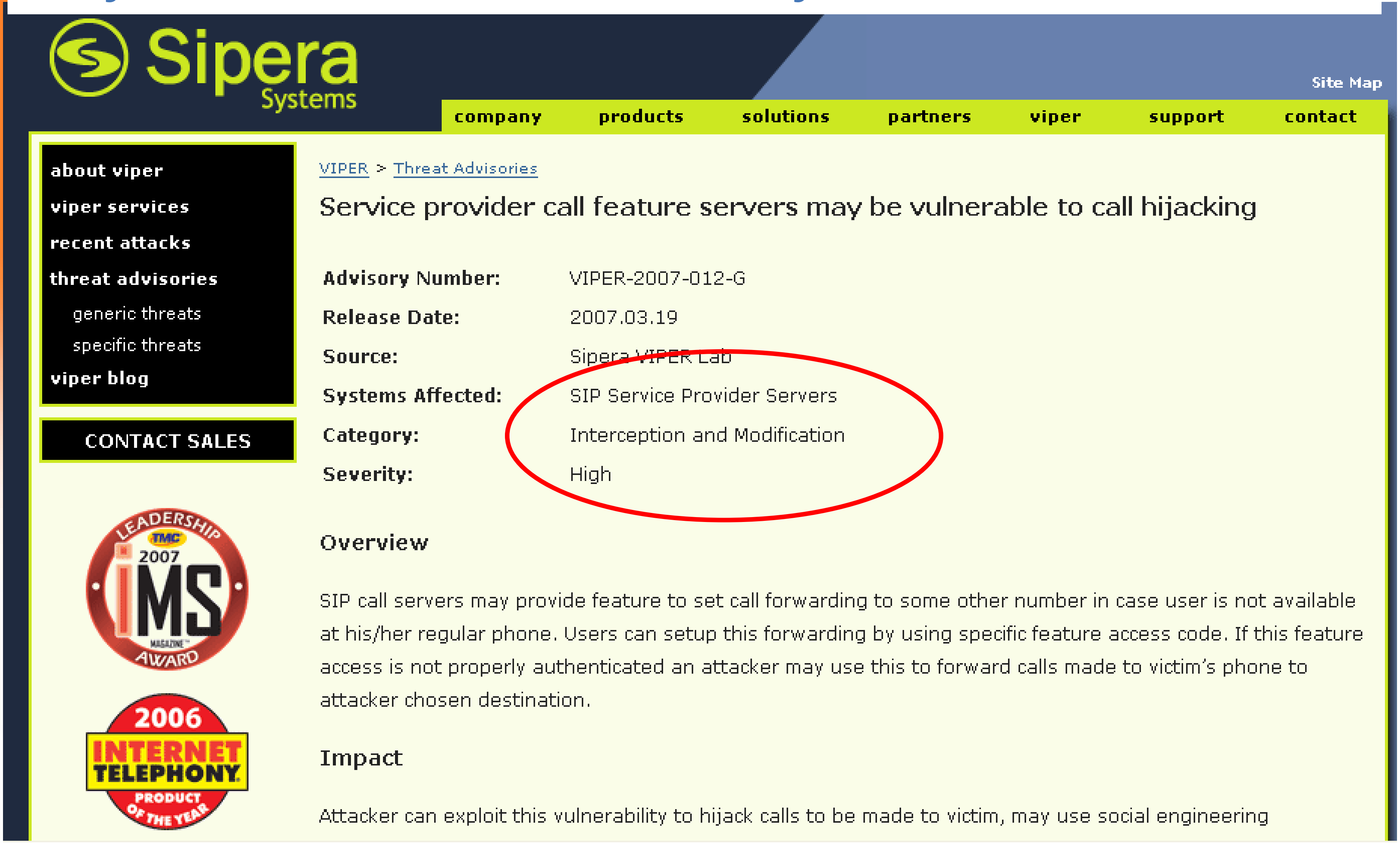
Why Not Just Connect Directly?



VIPER > Threat Advisories

Service provider call feature servers may be vulnerable to call hijacking

Advisory Number:	VIPER-2007-012-G
Release Date:	2007.03.19
Source:	Sipera VIPER Lab
Systems Affected:	SIP Service Provider Servers
Category:	Interception and Modification
Severity:	High

Overview

SIP call servers may provide feature to set call forwarding to some other number in case user is not available at his/her regular phone. Users can setup this forwarding by using specific feature access code. If this feature access is not properly authenticated an attacker may use this to forward calls made to victim's phone to attacker chosen destination.

Impact

Attacker can exploit this vulnerability to hijack calls to be made to victim, may use social engineering

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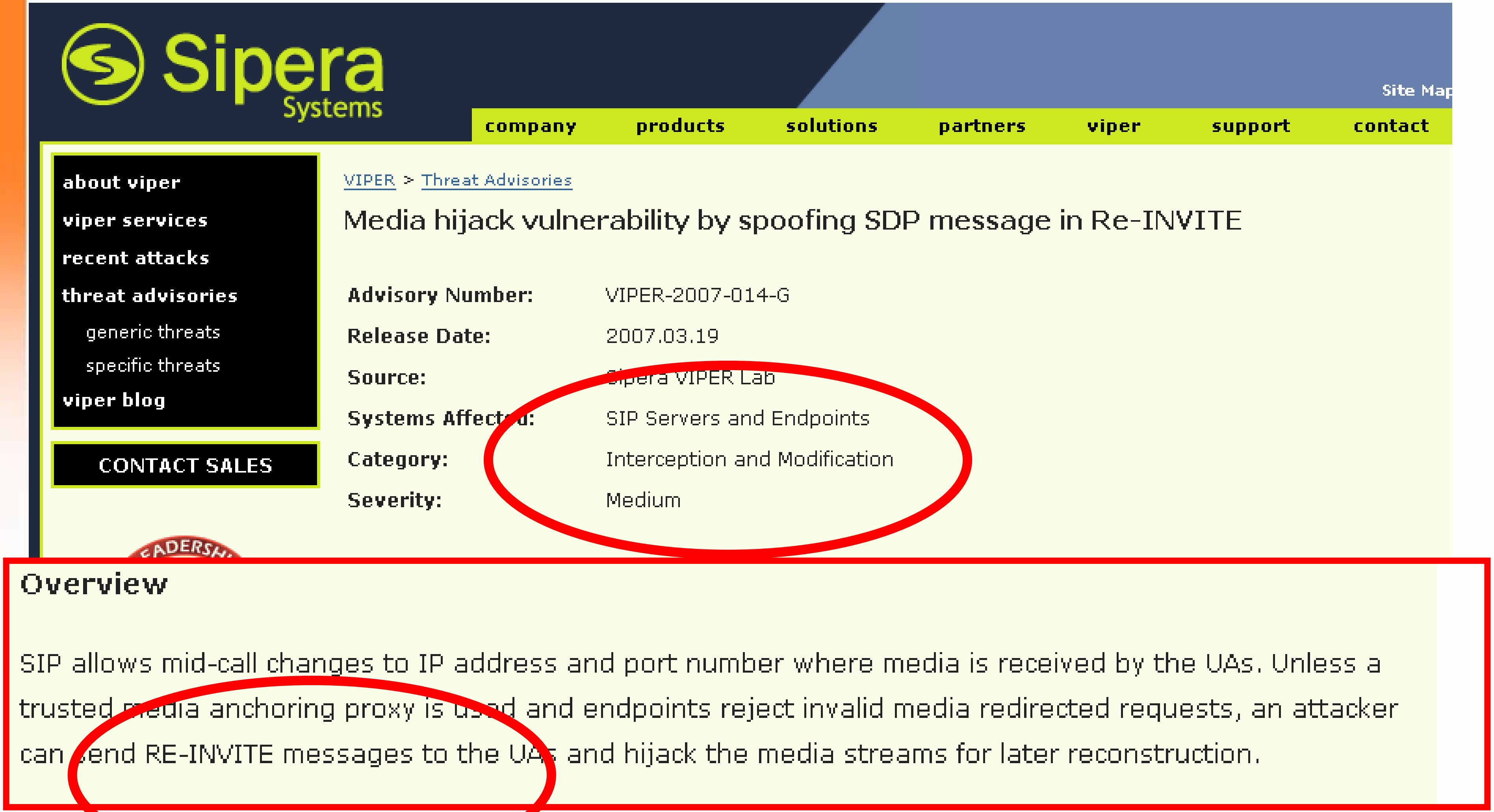
Why Not Just .Connect Directly?



VIPER > Threat Advisories

Media hijack vulnerability by spoofing SDP message in Re-INVITE

Advisory Number:	VIPER-2007-014-G
Release Date:	2007.03.19
Source:	Sipera VIPER Lab
Systems Affected:	SIP Servers and Endpoints
Category:	Interception and Modification
Severity:	Medium

Overview

SIP allows mid-call changes to IP address and port number where media is received by the UAs. Unless a trusted media anchoring proxy is used and endpoints reject invalid media redirected requests, an attacker can send RE-INVITE messages to the UAs and hijack the media streams for later reconstruction.

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