



思科智能报障

Smart Call Home
(Device Diagnostic in SNTC)

思科设备内嵌的智能服务能力

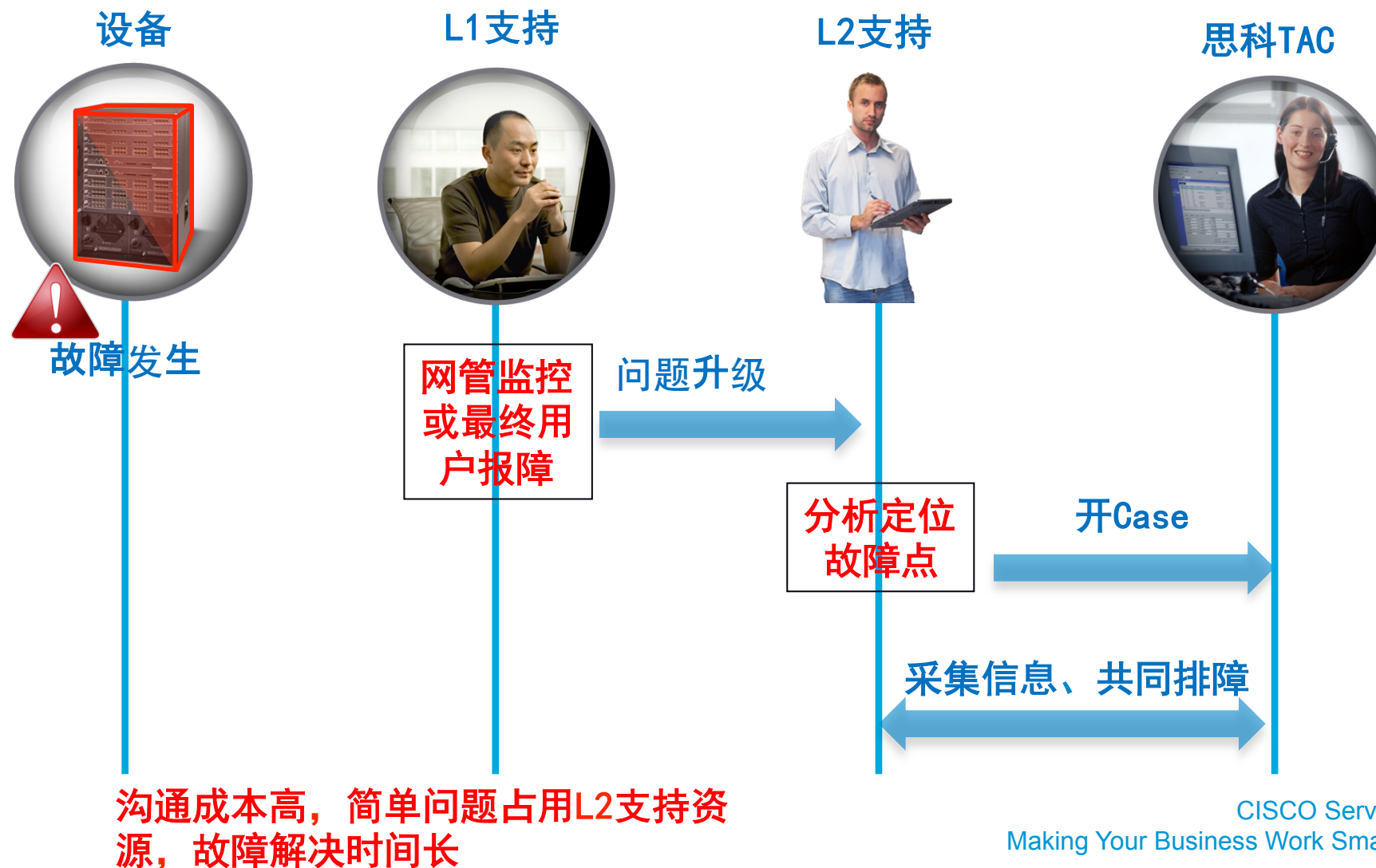
主动，实时诊断和告警
自动生成思科服务请求
方便的网站及报表功能
安全可靠的数据传输

SSPA 
star★award

M2M  magazine

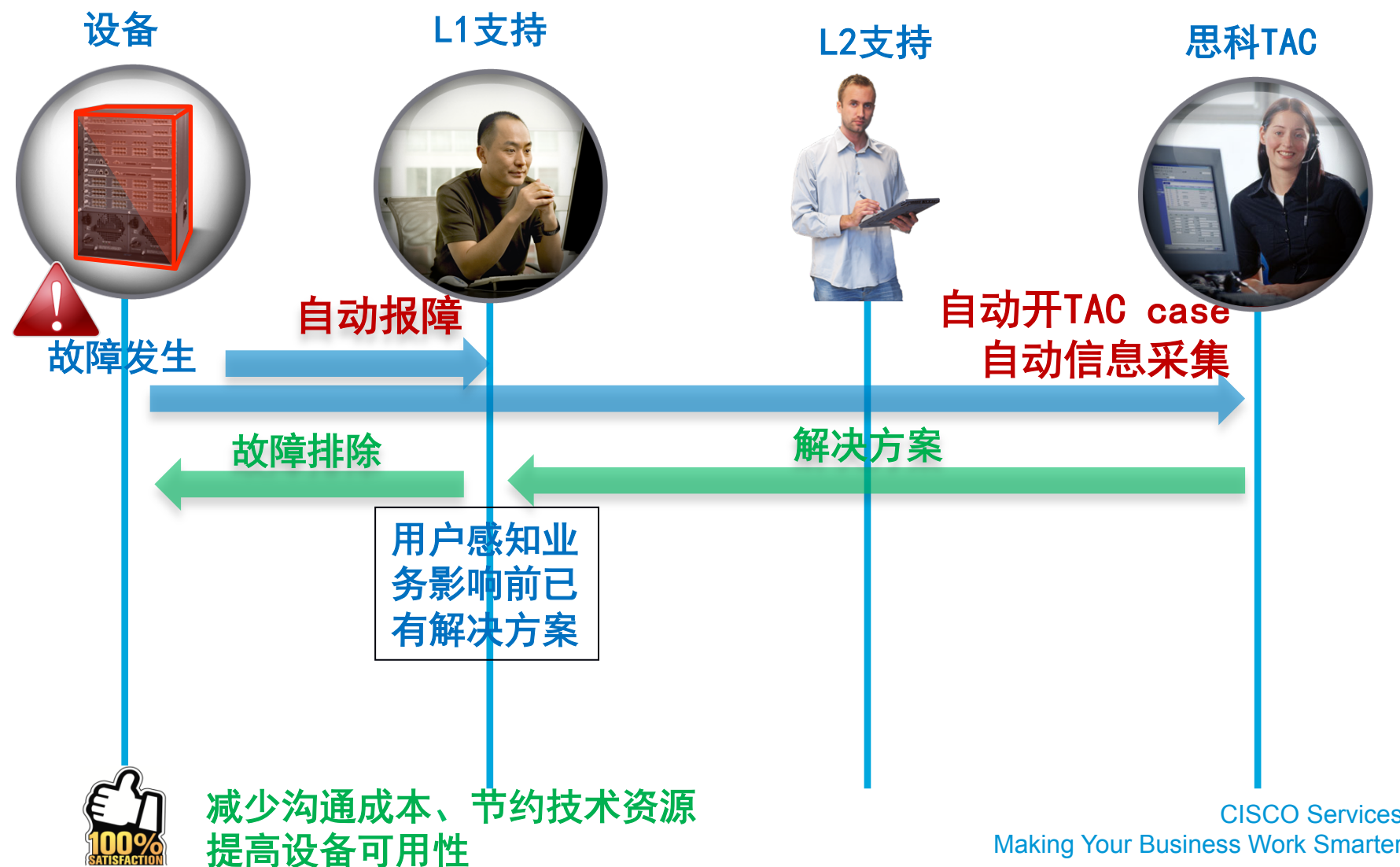
Smart Call Home

传统运维流程



CISCO Services
Making Your Business Work Smarter

SCH带来的流程简化及资源节省



工作方式



SCH关注的事件范围

- Inventory
周期性发送
- Configuration
周期性发送/配置变更驱动
- Environment
根据严重程度发送
- Diagnostic
根据严重程度发送
- Syslog
根据严重程度发送

- 周期性发送颗粒度
月、周、日、时间
- 严重都颗粒度
 - Catastrophic
 - Disaster
 - Fatal
 - Critical
 - Major
 - Minor
 - Warning
 - Notification
 - Normal
 - Debug

软硬件支持列表

产品名称 最低操作系统要求

数据中心及交换机

UCS6100	UCS OS 1.0
UCS6248	UCS OS 2.0
UCS6296	UCS OS 2.0
UCS C	UCS 1.4(2b)
Nexus 9000	NX-OS 6.1(2)
Nexus 7000	NX-OS 4.0
Nexus 5000	NX-OS 4.0
Nexus 4000	NX-OS 4.1(2)E1(1)
Nexus 2000	NX-OS 4.0
MDS 9000	NX-OS 4.1.1 or SAN-OS 1.0
Catalyst 6500	12.2(33)SXH
Catalyst 4900	12.2(52)SG
Catalyst 4500	12.2(52)SG
Catalyst 3750	12.2(58)SE
Catalyst 3560	12.2(58)SE
Catalyst 2960	12.2(58)SE

安全

ASA5500	8.2(2)
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路由器、运营商及城域以太

CRS/GSR/ASR9K	IOS-XR 4.1.0
Cisco 7600	12.2(33)SRC
ME 6500	12.2(33)SXH
ME 4924	12.2(52)SG
UBR 7000	12.2(33)SCE
UBR 10000	12.2(33)SCE
ASR 5000	12.0
ASR 1000	2.6.0
Cisco 7200	12.4(24)T
Cisco 7301	12.4(24)T
ISR 800, 1800, 2800, 3800	15.1(1)T
ISR G2 1900, 2900, 3900	15.1(1)T

语音

CUCM	UCS8.6(1)
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<http://www.cisco.com/web/services/portfolio/product-technical-support/smart-call-supported-products.html>

思科品牌服务与联合品牌服务的差异

	SNT, SNTC	PSS, SC
注册设备、邮件通知的CCO	与服务合同关联的客户CCO	与合作伙伴合同关联的合作伙伴CCO
思科后台系统诊断后自动邮件通知	支持	支持
自动开CASE	支持	不支持
SCH网站工具及报表	支持	支持

SCH网站工具

Products & Services Smart Call Home

Overview	Registration Management	Reports
Device Report Call Home History Report Global Summary Report Registration Summary Report Service Request Logging Report Ad-hoc Report Analysis Report		

Specify Report Criteria

Report Type

Results

Show Count

Start Date and Time:

End Date and Time:

Run

- ✓ Select
- Device by Alert Type
- Device by Failure Type
- Device for Malicious Messages
- Device by SR Raised
- Product Family by Alert Type
- Product Family by Failure Type
- Product Family by SR Raised
- Messages by Unsupported Alarms
- Messages Received
- Messages by Failures
- Messages by SR Raised
- Messages by Customers

智能报障组件及 workflow

设备注册流程

准备好服务合同号

确认设备类型及软件版本是否支持

在设备上配置智能报障

注册设备

确认消息传输正常

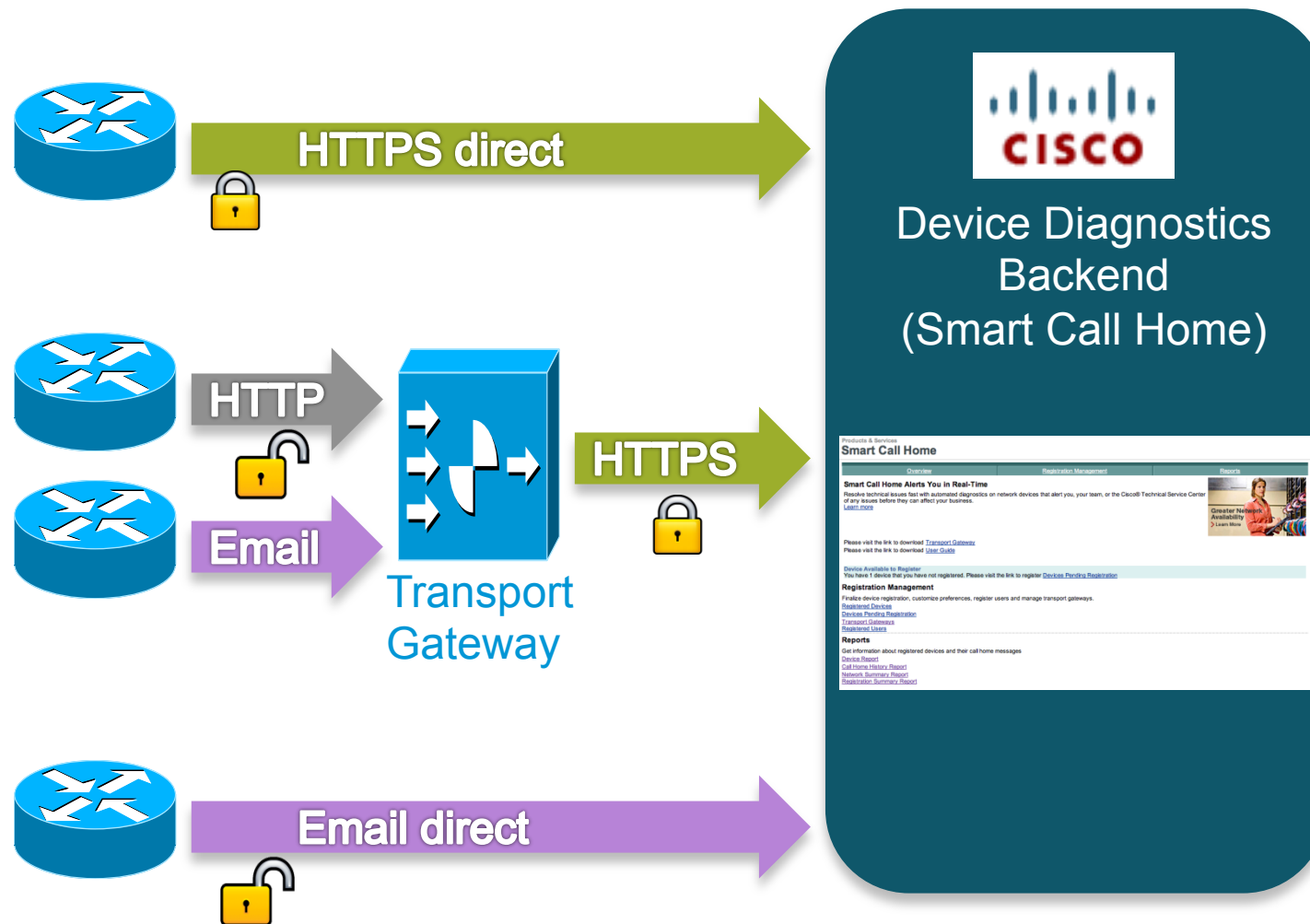
机器对机器自动服务

思科

客户/合作伙伴




传输方式



TG部署文档


- http://www.cisco.com/c/dam/en/us/td/docs/switches/lan/smart_call_home/Transport_Gateway_Deployment.pdf





Transport Gateway


[Expand All](#) | [Collapse All](#)

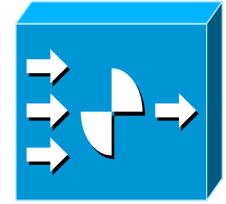
▼ Latest
4.1.2.1
3.5
▼ All Releases
▶ 4
▶ 3

Release 4.1.2.1

 Add Device

File Information	Release Date ▼	Size	
Cisco Transport Gateway 4.1.2.1 Linux Build - OVA Image  SCH-TG-standalone-lnx_v4_1_2_1.ova	29-APR-2015	551.27 MB	<div>Download</div> <div>Add to cart</div>
Cisco Transport Gateway 4.1.2.1 Linux Build  SCH-TG-standalone-lnx_v4_1_2_1.zip	08-APR-2015	59.25 MB	<div>Download</div> <div>Add to cart</div>
Cisco Transport Gateway 4.1.2.1 Windows Build  TransportGatewayWin64_v4_1_2_1.exe	08-APR-2015	66.49 MB	<div>Download</div> <div>Add to cart</div>
Cisco Transport Gateway 4.1.2.1 Windows Build - VM  TransportGatewayWin64_v4_1_2_1_VM.exe	08-APR-2015	100.59 MB	<div>Download</div> <div>Add to cart</div>

智能报障Transport Gateway



What?

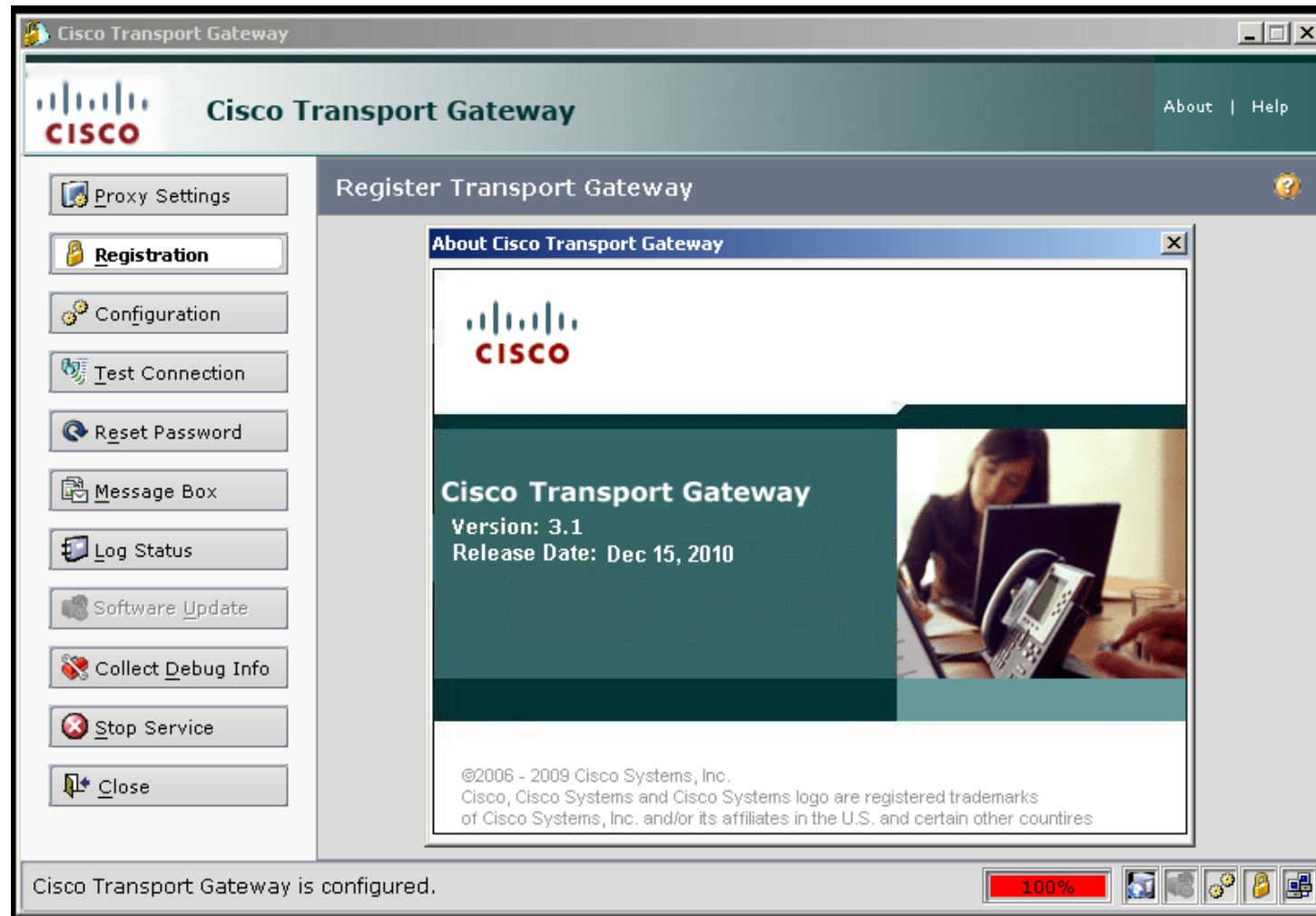
- 一种免费代理软件(proxy)
- 部署在Windows Server, Linux 或 Solaris 8 (不支持windows 8)

When?

- 客户不希望网络设备直接发消息给思科
- 客户希望通过统一的代理软件传输消息
- 需要穿过客户网内的HTTP代理



智能报障Transport Gateway



7K6/6K5平台收集命令示例

- [Inventory]

- show module
 - show version
 - show inventory
 - show idprom all
 - remote command switch show version
 - show diagbus

- [Diagnostic]

- show module
 - show diagnostic result module x detail
 - show version
 - show inventory
 - show buffers
 - show logging
 - show diagnostic result module all
 - remote command switch show version
 - show logging system last 100

- [Configuration]

- show module
 - show version
 - show running-config
 - show startup-config
 - show inventory
 - remote command switch show version

- [Syslog]

- show logging
 - show inventory

- [Environment]

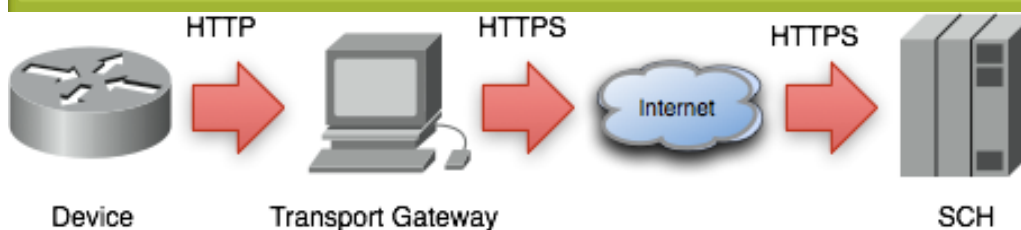
- show module
 - show environment
 - show logging
 - show inventory
 - show power

CISCO Services
Making Your Business Work Smarter

网络	设备类型	传输方式
Singtel Internet Platform	6k5/7k6*50+ 开始测试N5k	Direct HTTPS
Singtel MPLS platform		SCH transport Gateway Method



Direct HTTPS



Transport gateway Method

* 2013年2月至今自动开出3个TAC case并解决

服务价值



1

提高客户网络可用性

2

被动到主动的智能管理模式

3

为销售团队带来新的潜在机会

Smart Call Home Customer Success Story

- **Problem:** Needed a “smarter” way to manage and automate remote support operations for their global data center expansion
- **Solution:** Deployed Smart Call Home for remote diagnostic reporting on their Catalyst 6500s around the world
- **Impact:**
 1. Reduced incident resolution time by up to 3 hours
 2. Internal ROI estimated at 10–5% over outsourced service



Itron is the world's leading provider of intelligent metering, data collection, and utility software solutions, provides solutions based on machine-to-machine (M2M) automation and intelligence to 8,000 utility companies worldwide.



“I can sleep at night because the crown jewels are being protected...”

–R. Routt, Itron network engineer

IOS 配置

配置示例 – 默认profile

```
Hostname#configure terminal
```

```
Hostname(config)#service call-home
```

```
Hostname(config)#call-home
```

```
Hostname(cfg-call-home)#contact-email-addr username@domain-name.com
```

```
Hostname(cfg-call-home)#profile CiscoTAC-1
```

```
Hostname(cfg-call-home-profile)#active
```

```
Hostname(cfg-call-home-profile)#destination transport-method http
```

配置分析

```
ROUTER#sh call-home detail
```

Current call home settings:

call home feature : enable

SCH 状态 enabled

call home message's from address: Not yet set up

call home message's reply-to address: Not yet set up

vrf for call-home messages: Not yet set up

contact person's email address: ibmademo1@gmail.com

SCH邮件通知发给谁

contact person's phone number: Not yet set up

street address: Not yet set up

customer ID: Not yet set up

contract ID: Not yet set up

site ID: Not yet set up

source ip address: Not yet set up

Mail-server: Not yet set up

默认消息发送限速（每分钟）

Rate-limit: 20 message(s) per minute

配置分析

Available alert groups:

Keyword	State	Description
-----	-----	-----
configuration	Enable	configuration info
environment	Enable	environmental info
inventory	Enable	inventory info
syslog	Enable	syslog info

配置分析

Profile Name: CiscoTAC-1

默认 profile

Profile status: ACTIVE

Profile 状态

Preferred Message Format: xml

Message Size Limit: 3145728 Bytes

Transport Method: http

传输方式

Email address(es): callhome@cisco.com

消息发到哪里

HTTP address(es): https://tools.cisco.com/its/service/oddce/services/DDCEService

Periodic configuration info message is scheduled every 18 day of the month at 10:44

Periodic inventory info message is scheduled every 18 day of the month at 10:29

Alert-group	Severity
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environment	minor
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启用的告警组、严重级别或频率

Syslog-Pattern	Severity
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.*	major
----	-------

自定义profile举例

Profile Name: sntcl

Profile status: ACTIVE

HTTP address(es): http://172.21.18.155/schtg/services/DeviceRequestHandler

Periodic configuration info message is scheduled every Monday at 13:01

Alert-group	Severity
-------------	----------

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-------	-------

configuration	normal
---------------	--------

diagnostic	debug
------------	-------

environment	debug
-------------	-------

inventory	normal
-----------	--------

Syslog-Pattern	Severity
----------------	----------

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-------	-------

.*	debug
----	-------

启用的告警组、严重级别或频率

智能报障门户网站

邮件通知

Smart Call Home Notification For SmartCallHome - DIAGNOSTIC:GOLD - 2010-12-02 00:09:23 GMT+00:00

call-home-notify@cisco.com

Sent: Thursday, December 2, 2010 11:14 AM

To: Yaoheng Zhang; Peter J Cannon (petcanno)

Dear Smart Call Home User,

We have received a DIAGNOSTIC message from device "SmartCallHome" for which you are a contact person.

Problem Details:

WS-C6509 with Host Name SmartCallHome and Supervisor WS-SUP720-3B reported GOLD Diagnostics test failure:
TestFabricSnakeForward on module WS-SUP720-3B in slot 5 in SCA042200BK

For further detail and an analysis of these test failures, refer to: <https://tools.cisco.com/sch/reports/diagnosticResult.do?blockId=72ab5bf230754a2a:46e4599:12c9cb3d109:-6ae3&srId=615976783>

Device Details:

Message Name: Module 5: Diag detected major event
TimeStamp: 2010-12-02 00:09:23 GMT+00:00
Series: Catalyst 6500 Series Switches
Host Name: SmartCallHome
Contract ID: 3630730
Serial Number: SCA042200BK
Product ID: WS-C6509
Company: CISCO SYSTEMS AUSTRALIA PTY LIMITED

The message has been processed . Service Request 615976783 already existed for your device but has not been updated for this Call Home message because we have reached a maximum message threshold for this Service Request .

To review the Service Request, please go to <http://tools.cisco.com/ServiceRequestTool/query/QueryCaseSearchAction.do?caseType=ciscoServiceRequest&method=doQueryByCase&SRNumber=615976783>.

Please contact the Cisco TAC and reference the Service Request Number to close the Service Request if it has been resolved or opened in error.

Regards,
Cisco

故障记录

Smart Call Home

Overview	Registration Management	Reports
Device Report Call Home History Report Global Summary Report Registration Summary Report Service Request Logging Report		
< Back to Report Results		

Message Details

Message:	Company CISCO SYSTEMS AUSTRALIA PTY LIMITED	Generated on device at 02-Dec-2010 12:09:30 AM (Local Time Zone)
	Hostname SmartCallHome	Processed by Smart Call Home at 01-Dec-2010 07:14:44 PM(PST)
	Message Name Diagnostic	
	View Message Header >	
	View Device Output >	

Overall Results within Analysis Period

Problem Details	WS-C6509 with Host Name SmartCallHome and Supervisor WS-SUP720-3B reported GOLD Diagnostics test failure: TestFabricSnakeForward on module WS-SUP720-3B in slot 5 in SCA042200BK Note: Active Supervisor Failed
Recommendation	There was a single test failure in module 5. The recommendation for this test failure is listed in the individual result section below.

Individual Results within Analysis Period

Device	Test Name	Recommendation	Count	Status
SCA042200BK	TestFabricSnakeForward		28	Failure
	Show Details	Hide Recommendation		

Recommendation
<ul style="list-style-type: none">- Run the full suite of bootup diagnostics by issuing the 'diagnostic level complete' global configuration command and reboot the device to check if any other tests fail on module 5.- Reseat module 5 firmly and make sure the screws are securely tightened.- Move the module to a known good working slot on the same chassis or a different chassis. If the module passes the test in a different chassis, this could indicate a faulty chassis or a module that is inserting an indirect fault.- Because this test checks data paths with several ASICs, including the Fabric ASIC, software bugs related to fabric rxErrors or txErrors, such as bug ID CSCc55949 can cause this test to fail. Make sure that the installed software version is not impacted by related bugs.

故障原因分析及操作建议

Individual Results within Analysis Period

Device	Test Name	Recommendation	Count	Status
SCA042200BK	TestFabricSnakeForward Hide Details	Hide Recommendation	28	Failure

Test Description

This test performs the following tasks:

- The TestFabricSnakeForward test consists of two test cases:

- internal snake test
- external snake test

- The internal snake test generates the test packets inside the fabric ASIC; the test data path is limited to being inside the fabric ASIC.

- The external snake test generates the test packet using the supervisor inband port; the test data path involves the port ASIC, rewrite engine ASIC, inside the supervisor engine, and the fabric ASIC.

- The criteria used for determining which test case to use is whether the supervisor engines local channel is synchronized to the fabric ASIC or not.

- If synchronized, the external snake test is used
- If not synchronized, the internal snake test is used

- For both test cases, the only involved channels are those that are not synchronized to any line cards.

- The forward direction indicates that the snaking direction is from the low-numbered channel to the high-numbered channel.

Impact of Failure

Module 5 failed the TestFabricSnakeForward test:

- Error code -1 (DIAG_SIMULATED_FAILURE) indicates that the test failure was simulated.

- This module will be reset and this test may be CPU intensive causing up to 10% CPU utilization.

- This is a non-disruptive test and runs on-demand.

Recommendation

- Run the full suite of bootup diagnostics by issuing the 'diagnostic level complete' global configuration command and reboot the device to check if any other tests fail on module 5.

- Reseat module 5 firmly and make sure the screws are securely tightened.

- Move the module to a known good working slot on the same chassis or a different chassis. If the module passes the test in a different chassis, this could indicate a faulty chassis or a module that is inserting an indirect fault.

- Because this test checks data paths with several ASICs, including the Fabric ASIC, software bugs related to fabric rxErrors or txErrors, such as bug ID CSCsc55949 can cause this test to fail. Make sure that the installed software version is not impacted by related bugs.

什么事件会通知思科？ 什么事件自动开case？

各平台事件处理清单：

[http://www.cisco.com/en/US/services/ps2827/ps2978/ps7334/
SCH_Monitoring_Details.pdf](http://www.cisco.com/en/US/services/ps2827/ps2978/ps7334/SCH_Monitoring_Details.pdf)

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谢谢！
Q & A