

# Cisco IOS, SIP Session Initiation Protocol

## Denial of Service



**CVE ID** : cisco-sa-20100922-sip

[CVE-2009-2051](#)

**Published** : 2010-09-22 16:00

[CVE-2010-](#)

**Updated** : 2012-09-21 19:16

[2835](#)

**Version** : 1.1 : Final

[CVE-2010-](#)

**CVSS** : [7.8](#)

[2834](#)

**Workarounds** : No Workarounds available

**Cisco ID** : [CSCtf72678](#) [CSCsz43987](#)

[CSCta20040](#)

Denial of Service

### Impact

SIP is a protocol used for initiating and managing sessions between IP-based devices. A denial of service attack can be performed against SIP by sending a large number of malformed SIP requests to a target device. This can cause the target device to become unresponsive and unable to process legitimate SIP requests.

The attack is performed by sending a large number of malformed SIP requests to a target device. This can cause the target device to become unresponsive and unable to process legitimate SIP requests. The attack is performed by sending a large number of malformed SIP requests to a target device. This can cause the target device to become unresponsive and unable to process legitimate SIP requests.

For more information, see the [Cisco Security Advisory](http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20100922-sip).

**Published** : 2010-09-22 16:00  
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**CVSS** : 7.8  
**Workarounds** : No Workarounds available  
**Cisco ID** : CSCtf72678 CSCsz43987 CSCta20040

æ¬ĩã® URLãf³ã,¹ãf^ã®è;¨ã¬æfã—ã,, 2010 á' 9æœ^ 22

æ—¥é€€éé"ã•ã,Œãÿã™ã¹ã|ã® Cisco

IOSã,½ãf•ãf^ã,|ã,šã,çè,,†ã¼±æ€šã€ã¼ãÿã¬ãã,Œã»¥ã%ãã"ã¨ãf³ãf³ãf¼ã,¹ã—ã

<http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20100922-bundle>

"Cisco Event Response: Cisco IOS ãšã,^ã³ IOS ã,½ãf•ãf^ã,|ã,šã,çã®ã,»ã,ãf³ãf³ãf¼ã,£ã,çãf%ããfã,ªã,¶ãfª

ãfããf³ãf%ããf«è³±æ¬™ĩ¼^ãšã¹^ãšĩ¼%ã¬æ¬ĩã®ãf³ãf³ã,¬ã«æž²è¼%ã•ã,Œã|ã,,ã¼ã

[http://www.cisco.com/web/about/security/intelligence/Cisco\\_ERP\\_sep10.html](http://www.cisco.com/web/about/security/intelligence/Cisco_ERP_sep10.html)

Cisco Unified Communications Manager

ĩ¼^CUCMi¼%ã¬ã®ã,çãf%ããfã,ªã,¶ãfª«èª¬æžãŒã,ã,è,,†ã¼±æ€šãã,ã,%ã½±éÿã,

2 á'¥ã€...ã® Cisco Security Advisory ã¬æ¬ĩã®ã'æ%ã€š Cisco Unified

Communications Manager

ã«ã¼±éÿã,ã,žã^ã,è,,†ã¼±æ€šã,'è;¨ã,ã™ãÿã,ãã«ã...-é-ã•ã,Œã¼ã—ãÿ:

<http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20090826-cucm>

<http://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20100922-cucmsip>

è©²ã½"è£¹½ã“

ã"ã,Œã,%ã®è,,†ã¼±æ€šã¬æœ%ãš¹ã«ãã,ç SIP éÿ³ã£°

ã,¶ãf¼ãf"ã,¹ã,'ç"ã,,ã,ããÿè;Œã™ã,ããfããfã,ªã,¹ Cisco

IOSã,½ãf•ãf^ã,|ã,šã,çãã'ã«ã¼±éÿã,'ã,žã^ã¼ã™ã€,

è,,†ã¼±æ€šã®ãã,ã,è£¹½ã“

Ciscoãfããfã,ªã,¹ã¬ SIP

ãfããfã,»ãf¼ã,ã,ãã|ç†ã™ã,ããÿã,ãã«è¨ãšãã,ã,Œã,ã¼±éÿã,'ã—ã'ãÿCisco

IOS ã,½ãf•ãf^ã,|ã,šã,ç

ãfããf¼ã,ãfšãf³ã,'ãÿè;Œã—ã|ã,,ã,ã¨ãã¼±éÿã,'ã—ã'ã|ã,,ã¼ã™ã€,

Cisco IOSã,½ãf•ãf^ã,¹ã,šã,çã®æœ€èè'ã®ããfããf¼ã,ããfšãf³ã¬ SIP

ãfããfã,»ãf¼ã,ã,ãããããã,©ããããããããã|ç†ã—ã¼ããã,ãã, dial-peer voice

ã,³ãfžãf³ãf%ã®ç™è;Œã«ã,^ã,ããfãã,ããããããããã'ã,çã,ã½œæ^ã™ã,ãã"ã¨ã¬ SIP

ãfããfã,»ãf¼ã,ã,ãã|ç†ã—ã¼ãã™ Cisco IOSããããã,ªã,¹ã¬ SIP

ãf—ããã,»ã,¹ãã«ã,^ã,šè-ãšãã—ã¼ãã™ã€,ãã,ã,%ãã«ã€Cisco Unified

Communications Manager Expressãt...ã®èªæ°ã®æ©ÿèf½ã¬ã€ephone

ã®ã,^ããããã¼ãÿã€è³ãããçš,,ã«è¨ãšãã,ã,Œã,ããã SIP

afjaffa,»af¼a,ã,â†|ç tã—ãš<ã,ãã¾ã™ãfãfãã,ãã,¹ã SIP  
ãf—ãfã,»ã,¹ã«ã,^ã,Šé—ãš<ãã—ã¾ã™ã€,  
ã½±éÿã,â—ã'ã'ãÿè"ãšã®ã¾ãç||šã¾ã™:

```
dial-peer voice <Voice dial-peer tag> voip  
...
```

afãfãã,ãã,¹ãCE SIP  
afjaffa,»af¼a,ã,â†|ç tã—ã¾ã™ãfã€,ããfããf«ãf"ã,ãã,³ãfããfãã%ã®ãÿã,ãã«  
Cisco IOSãfãfãã,ãã,¹  
è"ãšã,ç,¹ãœãã™ã,ãã"ããã«ãšãã^ãã|ç®|ç tã€...ã¾ãÿ show processes  
ã,ã½ç"ããšãã¾ã™ | Cisco IOSã,½ãfãf^ã,ãã,šã,ããCE SIP  
afjaffa,»af¼a,ã,â†|ç tã™ã,ããf—ãfã,»ã,¹ã,ã®ÿè;Eã—ã|ã,,ã,ããã©ã tãã^ãã^ãã  
SIPã,³ãfããfãã%ãã,ãã«ã,"ããšã,ããã,,ã€,ã¬ãã®ã¾ããšãã™ã€Cisco  
IOSãfãfãã,ãã,¹ãCE SIP afjaffa,»af¼a,ã,â†|ç tã™ã,ãã"ããã,ããf—ãfã,»ã,¹  
CCSIP\_UDP\_SOCKETã®ããœ"ã< CCSIP\_TCP\_SOCKETãçãã—ã¾ã™:

<#root>

Router#

show processes | include SIP

149	Mwe	40F48254	4	1	400023108/24000	0	CCSIP_UDP_SOCKET
150	Mwe	40F48034	4	1	400023388/24000	0	CCSIP_TCP_SOCKET

æ³: èã†æ°ã®æ-¹æ³ãCEãã,ãã®ãš Cisco  
IOSã,½ãfãf^ã,ããšã,ãã,ã®ÿè;Eã™ã,ããfãfãã,ãã,¹ãããã,CEãÿããã,CEã¾ã™ããã  
show processes SIP afjaffa,»af¼a,ã,â†|ç tã—ãš<ã,ãã,ãã"ããããCEãšãã¾ã™  
| SIP  
ã,³ãfããfãã%ãã,ããfãfããã,ãã,¹ãCEç%ãã®ãšã®è"ãšã,³ãfããfãã%ãã"ããã,ãã®ããœ"ãã«é¼ãã  
SIP  
afjaffa,»af¼a,ã,â†|ç tã—ã|ã,,ã,ãããã©ã tãã^ãã^ãã™ã,ãã®ãã«ã½ç"ããã,CE  
Cisco Unified Border Elementã,ããfjãf¼ã,ãã¾ãÿãÿãã"ãã,CEã,%ãã®è,,tã¼±æ€šã®2  
ããã,ãã,ãã½±éÿã,â—ã'ã¾ã™ã€,

æ³: Cisco Unified Border Elementã®ÿèf½ãï¼^ã»ãã%ãã« Ciscoãfããfããã,ããf¼ããf"ã,¹  
IP-to-IPãª

ã,²ãf¼ãf^ã,|ã,šã,ªã—ã—ã|çÿã,‰ã,Ĉã|ã,,ã,‹i¼‰ãfžãf«ãfã,µãf¼ãf^ã,¹ã,²ãf¼ãf^ã,|ã,šã,ªã—ãf©ãffãf^ãfã,©ãf¼ãfã, on Cisco å®ÿè;Ĉã™ã,çç‰ã¹ã^ãã Cisco IOSã,½ãfãf^ã,|ã,šã,çã,ªãf;ãf¼ã,ãšã™ã€,ããã,Ĉã—ã,ªãf³ã,çãf¼ãf^ãf¼ã,ãf³ã,°ã«ãçjãã,é€ã,«æ±,æ»,ã,é€ã,ãã“ã”ã€ã,»ã,ãã,çãf‰ããfÿãfã,ãfšãf³ã^¼ããã€ Quality of Serviceãÿã,ãã«ãfããffãf^ãf^ãf¼ã,é—ã,ªãf³ã,çãf¼ãf^ã,šã,ªã,¹ãfãã,ªãf³ãf^ã,ã€ãšã,^ã³æããã¼ã—ã¼ã™ã€,

ã,ã,¹ã,³è£½ã“ãšç”¼ãfãã—ã|ã,,ã,‹ Cisco IOSã,½ãfãf^ã,|ã,šã,çãfããfãf¼ã,¹ã,çç°èãã™ã,ãã«ã—ãããfããfãã,ªã,¹ãããfã,°ã,ªãf³ãã—ã| show versionã,³ãfžãf³ãf‰ã,¹ã¼ãã£ã|ã€ã,ã,¹ãftãfãfããfšãf¼ã,èj”çãã—ã¼ã™ã€, "Internetwork Operating System Software"ã€"Cisco IOS Software"ãã,ãã,ãã,ãã—ããã,Ĉã,‰ã«éçžã¼ãã™ã,ã,ã,¹ãftãfãfããfšãf¼ãã«ã,^ã£ã|ãfããfãã,ªã,¹ãš Cisco IOSã,½ãfãf^ã,|ã,šã,çãĈç”¼ããã—ã|ã,,ã,ãã“ã”ã,çç°èããšãããã¼ã™ã€,ãããã®ã¼Ĉã,ããã«ã,ªãf;ãf¼ã,ããããĈæã¼ãšã®é—ã«èj”çãããã,Ĉã€çç¼ãã,,ã| "Version"ã” Cisco IOSã,½ãfãf^ã,|ã,¹ã,çãfããfãf¼ã,¹ããããĈèj”çãããã,Ĉãã¼ã™ã€,ã»ããã,ã,¹ã,³ãfããfãã,ªã,¹ãšãã—ã€show versionã,³ãfžãf³ãf‰ãĈã~ãœ”ã—ãããããããÿã,šã€ãã^ããã®ã¼ãããĈèj”çãããã,Ĉããÿã,šããã»ãã,ãããã¼ãã—ã€Cisco è£½ã”ãããã|ã€IOSãfããfãf¼ã,¹ 12.3(26)ããĈç”¼ããã—ã€ããããããããã,ªãf;ãf¼ã,ããããĈ C2500-IS-Lããšãã,ãããã“ã”ã,çç°ãã—ã|ã,,ãã¼ã™ã:

<#root>

Router#

show version

Cisco Internetwork Operating System Software  
IOS (tm) 2500 Software (C2500-IS-L), Version 12.3(26), RELEASE SOFTWARE (fc2)  
Technical Support: <http://www.cisco.com/techsupport>  
Copyright (c) 1986-2008 by cisco Systems, Inc.  
Compiled Mon 17-Mar-08 14:39 by dchih

!--- output truncated

æ¬ããã¼ãã—ããã,ªãf³ã,¹ãf^ãf¼ããããã,Ĉããÿã,ªãf;ãf¼ã,ããããĈ C1841-ADVENTERPRISEK9-Mãšã€Cisco IOSã,½ãfãf^ã,|ã,šã,çããfããfããf¼ã,¹ 12.4(20)T











*!-- Control-Plane of the device.*

```
policy-map control-plane-policy
class drop-sip-class
drop
```

*!-- Apply the Policy-Map to the Control-Plane of the device.*

```
control-plane
service-policy input control-plane-policy
```

æ³: SIP ã«è»cé€ ãf—ãfãf^ã,³ãf«ã»ã—ã | UDP  
ã,¹ã½ç””ãšããã,ã«ã®ãšã®¹æ””ã«ä¿é¼ã•ã,CEãÿ IP  
ã,çãf%ãf—ã,¹ã,ã,¹ãf—ãf¼ãf•ã,£ãf³ã,°ã™ã,ã«ã”ã”ã—ã—èf½æ€šã«ã,ã,ãšã™ã€  
ã,çã,ã,»ã,¹ãf»ã,³ãf³ãf^ãfãf¼ãf«ãf»ãfã,¹ãf^ã,¹ã»ã®ã%²ã,šã½”ã | é€šã¿æ•—ã—ã•ã»ã,ã

CoPP ä,šã«ã¾ãšã—ã«ã€CEæ'ã | ä€æ”ã½œã,¹ã,€è'ã™ã,ãfã,±ãffãf^ã—  
policy-map ãf%ããfãfãf—ã™ã,ç  
æ©ÿèf½ã«ã,¹ã,¹ãf—ãf¼ãf•ã,£ãf³ã,°ã™ã,ã«ã”ã”ã—ã—èf½æ€šã«ã,ã,ãšã™ã€  
map

ã€CEãf%ããfãfãf—ã™ã,ã€æ©ÿèf½ã«ã,¹ã,¹ãf—ãf¼ãf•ã,£ãf³ã,°ã™ã,ã«ã”ã”ã—ã—èf½æ€šã«ã,ã,ãšã™ã€  
ãfã,±ãffãf^ã,€è'ã™ã,çã,çã,—ã,»ã,¹ã^¿¾¿ã,³ãf³ãf^ãfãf¼^ACEi¼%ã«ã«ã€ã, CoPP  
æ©ÿèf½ã«ã»ã®šãšã,¹ã»³ã½ç””ã«ã«ã«ã«ã»ã»ã€f...ã ±ã [http://www.cisco.com/web/about/security/intelligence/coppwp\\_gs.html](http://www.cisco.com/web/about/security/intelligence/coppwp_gs.html) ãšã,¹ã»³ [http://www.cisco.com/en/US/docs/ios/12\\_3t/12\\_3t4/feature/guide/gtrtlimt.html](http://www.cisco.com/en/US/docs/ios/12_3t/12_3t4/feature/guide/gtrtlimt.html) ãšã»ã¿ã¿ã¿ã¿ã¿ã¿ã¾ã™ã€,

## ä¿«æ£æ,¹ã¿ã,½ãf•ãf^ã, |ã,šã,ç

ã,¹ãf•ãf^ã,¹ã,šã,çã«ã,çãffãf—ã,°ãf—ãf¼ãf%ãã,¹æœœè”žã™ã,«éšã»ã«ã—ã€<http://www.cisco.com/go/psirt>

ãšã,¹ã»³ã«ã,CEã»é™ã«ã«ã,çãf%ããfãã,ã,¿ãfãã,ã,ç...šã—ã | ä€èµã”ã,šãtã,«éšã  
ã,½ãfãfãf¼ãã,ãfšãf³ã,¹ã^œã—ã—ã |ã«ã«ã«ã«ã»ã»ã€

ã,ãšã,CEã«ã¿ã^ã,ã€ã,çãffãf—ã,°ãf—ãf¼ãf%ãã™ã,æ©ÿã™”ã«ã«ã^ãã^ãããfãfãfããã  
æf...ã ±ã «ã,æ”žã»ç,¹ãCEã,ã,ã¿ã^ã—ã€Cisco Technical Assistance  
Centeri¼^TACi¼%ã¾ãÿã—ã¿ç’,ã,çµã,¹ãšã,ã,ãfãf³ãftãfšãf³ã,¹  
ãf—ãfãfãã,ããfãf¼ã«ãšã•ãã,ã^ã»ã»ã»ã»ã»ã»ã,ã€

æ¬¿ã« Cisco IOSã,½ãf•ãf^ã, |ã,šã,ç è¿ã«ã,è¿CEã—ã,€€€ã«Cisco

IOS, Cisco IOS Security Advisory, 2010, affected releases, 12.0, 12.1, 12.2, 12.2B, 12.2BC, 12.2BW

<p>affected releases</p>	
<p>Affected 12.0-Based Releases</p>	<p>12.0, 12.0B, 12.0C, 12.0D, 12.0E, 12.0F, 12.0G, 12.0H, 12.0I, 12.0J, 12.0K, 12.0L, 12.0M, 12.0N, 12.0O, 12.0P, 12.0Q, 12.0R, 12.0S, 12.0T, 12.0U, 12.0V, 12.0W, 12.0X, 12.0Y, 12.0Z</p>
<p>12.0, 12.0B, 12.0C, 12.0D, 12.0E, 12.0F, 12.0G, 12.0H, 12.0I, 12.0J, 12.0K, 12.0L, 12.0M, 12.0N, 12.0O, 12.0P, 12.0Q, 12.0R, 12.0S, 12.0T, 12.0U, 12.0V, 12.0W, 12.0X, 12.0Y, 12.0Z</p>	
<p>Affected 12.1-Based Releases</p>	<p>12.1, 12.1B, 12.1C, 12.1D, 12.1E, 12.1F, 12.1G, 12.1H, 12.1I, 12.1J, 12.1K, 12.1L, 12.1M, 12.1N, 12.1O, 12.1P, 12.1Q, 12.1R, 12.1S, 12.1T, 12.1U, 12.1V, 12.1W, 12.1X, 12.1Y, 12.1Z</p>
<p>12.1, 12.1B, 12.1C, 12.1D, 12.1E, 12.1F, 12.1G, 12.1H, 12.1I, 12.1J, 12.1K, 12.1L, 12.1M, 12.1N, 12.1O, 12.1P, 12.1Q, 12.1R, 12.1S, 12.1T, 12.1U, 12.1V, 12.1W, 12.1X, 12.1Y, 12.1Z</p>	
<p>Affected 12.2-Based Releases</p>	<p>12.2, 12.2B, 12.2C, 12.2D, 12.2E, 12.2F, 12.2G, 12.2H, 12.2I, 12.2J, 12.2K, 12.2L, 12.2M, 12.2N, 12.2O, 12.2P, 12.2Q, 12.2R, 12.2S, 12.2T, 12.2U, 12.2V, 12.2W, 12.2X, 12.2Y, 12.2Z</p>
<p>12.2</p>	<p>12.2, 12.2B, 12.2C, 12.2D, 12.2E, 12.2F, 12.2G, 12.2H, 12.2I, 12.2J, 12.2K, 12.2L, 12.2M, 12.2N, 12.2O, 12.2P, 12.2Q, 12.2R, 12.2S, 12.2T, 12.2U, 12.2V, 12.2W, 12.2X, 12.2Y, 12.2Z</p>
<p>12.2B</p>	<p>12.2, 12.2B, 12.2C, 12.2D, 12.2E, 12.2F, 12.2G, 12.2H, 12.2I, 12.2J, 12.2K, 12.2L, 12.2M, 12.2N, 12.2O, 12.2P, 12.2Q, 12.2R, 12.2S, 12.2T, 12.2U, 12.2V, 12.2W, 12.2X, 12.2Y, 12.2Z</p>
<p>12.2BC</p>	<p>12.2, 12.2B, 12.2C, 12.2D, 12.2E, 12.2F, 12.2G, 12.2H, 12.2I, 12.2J, 12.2K, 12.2L, 12.2M, 12.2N, 12.2O, 12.2P, 12.2Q, 12.2R, 12.2S, 12.2T, 12.2U, 12.2V, 12.2W, 12.2X, 12.2Y, 12.2Z</p>
<p>12.2BW</p>	<p>12.2, 12.2B, 12.2C, 12.2D, 12.2E, 12.2F, 12.2G, 12.2H, 12.2I, 12.2J, 12.2K, 12.2L, 12.2M, 12.2N, 12.2O, 12.2P, 12.2Q, 12.2R, 12.2S, 12.2T, 12.2U, 12.2V, 12.2W, 12.2X, 12.2Y, 12.2Z</p>

12.2BX	è,,†â¼±æ€§ãªãª—
12.2BY	è,,†â¼±æ€§ãªãª—
12.2BZ	è,,†â¼±æ€§ãªãª—
12.2CX	è,,†â¼±æ€§ãªãª—
12.2CY	è,,†â¼±æ€§ãªãª—
12.2CZ	è,,†â¼±æ€§ãªãª—
12.2DA	è,,†â¼±æ€§ãªãª—
12.2DD	è,,†â¼±æ€§ãªãª—
12.2DX	è,,†â¼±æ€§ãªãª—
12.2EW	è,,†â¼±æ€§ãªãª—
12.2EWA	è,,†â¼±æ€§ãªãª—
12.2EX	è,,†â¼±æ€§ãªãª—
12.2EY	è,,†â¼±æ€§ãªãª—

12.2EZ	è,,†â¼±æ€§ãªã—
12.2FX	è,,†â¼±æ€§ãªã—
12.2FY	è,,†â¼±æ€§ãªã—
12.2FZ	è,,†â¼±æ€§ãªã—
12.2IRA	è,,†â¼±æ€§ãªã—
12.2IRB	è,,†â¼±æ€§ãªã—
12.2IRC	è,,†â¼±æ€§ãªã—
12.2IRD	è,,†â¼±æ€§ãªã—
12.2IRE	è,,†â¼±æ€§ãªã—
12.2IXA	è,,†â¼±æ€§ãªã—
12.2IXB	è,,†â¼±æ€§ãªã—
12.2IXC	è,,†â¼±æ€§ãªã—

12.2IXD	è,,†â¼±æ€§ãªã—
12.2IXE	è,,†â¼±æ€§ãªã—
12.2IXF	è,,†â¼±æ€§ãªã—
12.2IXG	è,,†â¼±æ€§ãªã—
12.2IXH	è,,†â¼±æ€§ãªã—
12.2JA	è,,†â¼±æ€§ãªã—
12.2JK	è,,†â¼±æ€§ãªã—
12.2MB	è,,†â¼±æ€§ãªã—
12.2MC	è,,†â¼±æ€§ãªã—
12.2MRA	è,,†â¼±æ€§ãªã—
12.2MRB	è,,†â¼±æ€§ãªã—
12.2S	è,,†â¼±æ€§ãªã—

12.2SB	è,,†â¼±æ€§ãªã—
12.2SBC	è,,†â¼±æ€§ãªã—
12.2SCA	è,,†â¼±æ€§ãªã—
12.2SCB	è,,†â¼±æ€§ãªã—
12.2SCC	è,,†â¼±æ€§ãªã—
12.2SCD	è,,†â¼±æ€§ãªã—
12.2SE	è,,†â¼±æ€§ãªã—
12.2SEA	è,,†â¼±æ€§ãªã—
12.2SEB	è,,†â¼±æ€§ãªã—
12.2SEC	è,,†â¼±æ€§ãªã—
12.2SED	è,,†â¼±æ€§ãªã—
12.2SEE	è,,†â¼±æ€§ãªã—
12.2SEF	è,,†â¼±æ€§ãªã—
12.2SEG	è,,†â¼±æ€§ãªã—

12.2SG	è,,†â¼±æ€§ãªã—
12.2SGA	è,,†â¼±æ€§ãªã—
12.2SL	è,,†â¼±æ€§ãªã—
12.2SM	è,,†â¼±æ€§ãªã—
12.2SO	è,,†â¼±æ€§ãªã—
12.2SQ	è,,†â¼±æ€§ãªã—
12.2SRA	è,,†â¼±æ€§ãªã—
12.2SRB	è,,†â¼±æ€§ãªã—
12.2SRC	è,,†â¼±æ€§ãªã—
12.2SRD	è,,†â¼±æ€§ãªã—
12.2SRE	è,,†â¼±æ€§ãªã—
12.2STE	è,,†â¼±æ€§ãªã—
12.2SU	è,,†â¼±æ€§ãªã—
12.2SV	è,,†â¼±æ€§ãªã—

12.2SVA	è,,†â¼±æ€§ãªã—
12.2SVC	è,,†â¼±æ€§ãªã—
12.2SVD	è,,†â¼±æ€§ãªã—
12.2SVE	è,,†â¼±æ€§ãªã—
12.2SW	è,,†â¼±æ€§ãªã—
12.2SX	è,,†â¼±æ€§ãªã—
12.2SXA	è,,†â¼±æ€§ãªã—
12.2SXB	è,,†â¼±æ€§ãªã—
12.2SXD	è,,†â¼±æ€§ãªã—
12.2SXE	è,,†â¼±æ€§ãªã—
12.2SXF	è,,†â¼±æ€§ãªã—
12.2SXH	è,,†â¼±æ€§ãªã—
12.2SXI	è,,†â¼±æ€§ãªã—



12.2SY	Vulnerable; migrate to any release in 12.2S
12.2SZ	è,,†â¼±æ€§ãªã—
12.2T	è,,†â¼±æ€§ãªã—
12.2TPC	è,,†â¼±æ€§ãªã—
12.2XA	è,,†â¼±æ€§ãªã—
12.2XB	è,,†â¼±æ€§ãªã—
12.2XC	è,,†â¼±æ€§ãªã—
12.2XD	è,,†â¼±æ€§ãªã—
12.2XE	è,,†â¼±æ€§ãªã—
12.2XF	è,,†â¼±æ€§ãªã—
12.2XG	è,,†â¼±æ€§ãªã—
12.2XH	è,,†â¼±æ€§ãªã—
12.2XI	è,,†â¼±æ€§ãªã—
12.2XJ	è,,†â¼±æ€§ãªã—

12.2XK	è,,†â¼±æ€§ãªã—
12.2XL	è,,†â¼±æ€§ãªã—
12.2XM	è,,†â¼±æ€§ãªã—
12.2XN	è,,†â¼±æ€§ãªã—
12.2XNA	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XNB	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XNC	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XND	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XNE	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XNF	<a href="#">Cisco IOS XE 3.12af*af^ã.lã.šã.cã®ã-ç''' æ€§ã, 'ã,ç...šã—ã  ã</a>
12.2XO	è,,†â¼±æ€§ãªã—
12.2XQ	è,,†â¼±æ€§ãªã—
12.2XR	è,,†â¼±æ€§ãªã—
12.2XS	è,,†â¼±æ€§ãªã—
12.2XT	è,,†â¼±æ€§ãªã—

12.2XU	è,,†â¼±æ€§ãªã—
12.2XV	è,,†â¼±æ€§ãªã—
12.2XW	è,,†â¼±æ€§ãªã—
12.2YA	è,,†â¼±æ€§ãªã—
12.2YB	è,,†â¼±æ€§ãªã—
12.2YC	è,,†â¼±æ€§ãªã—
12.2YD	è,,†â¼±æ€§ãªã—
12.2YE	è,,†â¼±æ€§ãªã—
12.2YF	è,,†â¼±æ€§ãªã—
12.2YG	è,,†â¼±æ€§ãªã—
12.2YH	è,,†â¼±æ€§ãªã—
12.2YJ	è,,†â¼±æ€§ãªã—

12.2YK	$\frac{1}{4} \pm \epsilon$
12.2YL	$\frac{1}{4} \pm \epsilon$
12.2YM	$\frac{1}{4} \pm \epsilon$
12.2YN	$\frac{1}{4} \pm \epsilon$
12.2YO	$\frac{1}{4} \pm \epsilon$
12.2YP	$\frac{1}{4} \pm \epsilon$
12.2YQ	$\frac{1}{4} \pm \epsilon$
12.2YR	$\frac{1}{4} \pm \epsilon$
12.2YS	$\frac{1}{4} \pm \epsilon$
12.2YT	$\frac{1}{4} \pm \epsilon$
12.2YU	$\frac{1}{4} \pm \epsilon$
12.2YV	$\frac{1}{4} \pm \epsilon$
12.2YW	$\frac{1}{4} \pm \epsilon$

12.2YX	è,,†â¼±æ€§ãªã—
12.2YY	è,,†â¼±æ€§ãªã—
12.2YZ	è,,†â¼±æ€§ãªã—
12.2ZA	è,,†â¼±æ€§ãªã—
12.2ZB	è,,†â¼±æ€§ãªã—
12.2ZC	è,,†â¼±æ€§ãªã—
12.2ZD	è,,†â¼±æ€§ãªã—
12.2ZE	è,,†â¼±æ€§ãªã—
12.2ZF	è,,†â¼±æ€§ãªã—
12.2ZG	è,,†â¼±æ€§ãªã—
12.2ZH	è,,†â¼±æ€§ãªã—
12.2ZJ	è,,†â¼±æ€§ãªã—

12.2ZL	è,,†â¼±æ€§ãªã—
12.2ZP	è,,†â¼±æ€§ãªã—
12.2ZU	è,,†â¼±æ€§ãªã—
12.2ZX	è,,†â¼±æ€§ãªã—
12.2ZY	è,,†â¼±æ€§ãªã—
12.2ZYA	è,,†â¼±æ€§ãªã—
<b>Affected 12.3-Based Releases</b>	<b>ãª“ãª®ã,çãf%oãfã,ªã,¶ãfªã®æo</b>
12.3	è,,†â¼±æ€§ãªã—
12.3B	è,,†â¼±æ€§ãªã—
12.3BC	è,,†â¼±æ€§ãªã—
12.3BW	è,,†â¼±æ€§ãªã—
12.3EU	è,,†â¼±æ€§ãªã—
12.3JA	è,,†â¼±æ€§ãªã—

12.3JEA	è,,†â¼±æ€§ãªã—
12.3JEB	è,,†â¼±æ€§ãªã—
12.3JEC	è,,†â¼±æ€§ãªã—
12.3JED	è,,†â¼±æ€§ãªã—
12.3JK	12.3(2)JK3 ä¾ãªãª@ãªãªãª¼ã,¹ãª«ãª—è,,†â¼±æ€§ãªª—ãª,ã,Šã 12.3(8)JK1 ä»¥é™ªãª@ãªãªãª¼ã,¹ãª«ãª—è,,†â¼±æ€§ãªª—ãª,ã,Šã
12.3JL	è,,†â¼±æ€§ãªã—
12.3JX	è,,†â¼±æ€§ãªã—
12.3T	Vulnerable; <a href="#">first fixed in 12.4T</a> 12.3(4)T11 ä»¥å%ªãª@ãªãªãª¼ã,¹ãª—è,,†â¼±ãªªª—ãªªªªª,ãªªª
12.3TPC	è,,†â¼±æ€§ãªã—
12.3VA	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XA	è,,†â¼±æ€§ãªã—
12.3XB	è,,†â¼±æ€§ãªã—
12.3XC	è,,†â¼±æ€§ãªã—

12.3XD	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XE	è,,†â¼±æ€§ãªã—
12.3XF	Vulnerable; ãª“ãª®ã,çãf%ããfªã,ªã,¶ãfªãª®ã€Ĉã;ãªãªã;ã,½ãfãªã,»ã,ªã,ãfªãfªãª®ã%ã«é tãª«é-çãª—ãª ãªªãªã,µãfªãfª
12.3XG	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XI	12.3(7)XI11 ã,ªã,Šã%ãª®ãfªãfªãf¼ã,¹ãª«ãª-è,,†â¼±æ€§ãªĈãª,ãª»¥é™ãª®ãfªãfªãf¼ã,¹ãª«ãª-è,,†â¼±æ€§ãªªãª,ã,Šãª¼ãªªã,ª
12.3XJ	Vulnerable; 12.4XN ãª®ãª»æ,,ãª®ãfªãfªãf¼ã,¹ãª«ç§»è;Ĉãª€,
12.3XK	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XL	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XQ	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XR	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XS	è,,†â¼±æ€§ãªªã—
12.3XU	Vulnerable; <a href="#">first fixed in 12.4T</a> 12.3(8)XU1 ä»¥ã%ãª®ãfªãfªãf¼ã,¹ãª-è,,†â¼±ãªªãªªãªªãª,ªãª
12.3XW	Vulnerable; 12.4XN ãª®ãª»æ,,ãª®ãfªãfªãf¼ã,¹ãª«ç§»è;Ĉãª€,
12.3XX	Vulnerable; <a href="#">first fixed in 12.4T</a>



12.3XY	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3XZ	è,,†â¼±æ-€§ãªã—
12.3YA	è,,†â¼±æ-€§ãªã—
12.3YD	è,,†â¼±æ-€§ãªã—
12.3YF	Vulnerable; 12.4XN ä®ä»æ,,ã®ãfªãfªãf¼ã,¹ã«çš»è;Œã€,
12.3YG	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3YH	è,,†â¼±æ-€§ãªã—
12.3YI	è,,†â¼±æ-€§ãªã—
12.3YJ	è,,†â¼±æ-€§ãªã—
12.3YK	Release prior to 12.3(11)YK3 are vulnerable¼Œ releases 12.3(11)YK3 and late
12.3YM	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3YQ	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3YS	Vulnerable; <a href="#">first fixed in 12.4T</a> 12.3(11)YS1 ä»¥â%ã®ãfªãfªãf¼ã,¹ã-è,,†â¼±ãšã-ãªã,,ã
12.3YT	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.3YU	Vulnerable; <a href="#">first fixed in 12.4T</a>

12.3YX	Vulnerable; 12.4XN ã"ã»æ,,ã"ãfªãfªãf¼ã,¹ã«çš»è;Œã€,
12.3YZ	Vulnerable; ã"ã"ã"ã,çãf%ãããã,ªã,¶ãfªã"ã€Œã;ãæã,ã;ã,½ãfã€ã,»ã,ã,ãfšãf³ã"ã%ã«é tã«é-çã—ã ããã,µãfãf
12.3ZA	Vulnerable; <a href="#">first fixed in 12.4T</a>
<b>Affected 12.4-Based Releases</b>	ã"ã"ã"ã,çãf%ãããã,ªã,¶ãfªã"ã€œ
12.4	12.4(25d)
12.4GC	12.4(24)GC2
12.4JA	è,,†ã¼±æ€§ã"ã—
12.4JDA	è,,†ã¼±æ€§ã"ã—
12.4JDC	è,,†ã¼±æ€§ã"ã—
12.4JDD	è,,†ã¼±æ€§ã"ã—
12.4JHA	è,,†ã¼±æ€§ã"ã—
12.4JHB	è,,†ã¼±æ€§ã"ã—
12.4JK	è,,†ã¼±æ€§ã"ã—
12.4JL	è,,†ã¼±æ€§ã"ã—

12.4JMA	è,,†â¼±æ€§ãªã—
12.4JMB	è,,†â¼±æ€§ãªã—
12.4JX	è,,†â¼±æ€§ãªã—
12.4JY	è,,†â¼±æ€§ãªã—
12.4MD	è,,†â¼±æ€§ãªã—
12.4MDA	è,,†â¼±æ€§ãªã—
12.4MR	Vulnerable; <a href="#">first fixed in 12.4MRA</a>
12.4MRA	12.4(20)MRA1
12.4SW	è,,†â¼±æ€§ãªã—
12.4T	12.4(15)T14 12.4(24)T4 12.4(20)T6
12.4XA	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XB	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XC	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XD	Vulnerable; <a href="#">first fixed in 12.4T</a>

12.4XE	Release prior to 12.4(6)XE5 are vulnerable! 1/4E releases 12.4(6)XE5 and later a
12.4XF	è,,†â¼±æ€§ãªã—
12.4XG	è,,†â¼±æ€§ãªã—
12.4XJ	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XK	è,,†â¼±æ€§ãªã—
12.4XL	Vulnerable; ãª“ãª®ã,çãf%ooãfãª,ªã,¶ãfãª®ã€CEä;@æfa_ãª;ã,½ãfãª ãª»ã,ãª,ãª,ãªfãfãª®ãª%o<é tãª«é-çãª—ãª ãªãªã,µãfãªfãª
12.4XM	12.4(15)XM ä»¥ã%ãª®ãªfãªfãªf¼ã,¹ãªè,,†â¼±ãª§ãªãªãª,ãª ãªfãªfãªf¼ã,¹ 12.4(15)XM3 ãª§ã,ãª³ãªªã,CEä»¥é™ãªè,,†â¼±ãª§ãª
12.4XN	è,,†â¼±æ€§ãªã—
12.4XP	Vulnerable; ãª“ãª®ã,çãf%ooãfãª,ªã,¶ãfãª®ã€CEä;@æfa_ãª;ã,½ãfãª ãª»ã,ãª,ãª,ãªfãfãª®ãª%o<é tãª«é-çãª—ãª ãªãªã,µãfãªfãª
12.4XQ	è,,†â¼±æ€§ãªã—
12.4XR	è,,†â¼±æ€§ãªã—
12.4XT	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XV	Vulnerable; ãª“ãª®ã,çãf%ooãfãª,ªã,¶ãfãª®ã€CEä;@æfa_ãª;ã,½ãfãª

	ã€ã,»ã,^-ã,ãfšãf³ã®æ%œ<é tã«é-çã—ã ã^-ã€ã,μãfãf¹
12.4XW	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XY	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4XZ	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4YA	Vulnerable; <a href="#">first fixed in 12.4T</a>
12.4YB	Vulnerable; ã"ã®ã,çãf%œãfã,ªã,¶ãfã®ã€Eä;@æfa_ã;ã,½ãfã€ã,»ã,^-ã,ãfšãf³ã®æ%œ<é tã«é-çã—ã ã^-ã€ã,μãfãf¹
12.4YD	è,,†ã¼±æ€§ãªã—
12.4YE	è,,†ã¼±æ€§ãªã—
12.4YG	è,,†ã¼±æ€§ãªã—
<b>ã½±éÿ;ã,'ã—ã'ã,&lt; 15.0 ãf™ãf¼ã,¹ã®ãfªãfªãf¼ã,¹</b>	<b>ã"ã®ã,çãf%œãfã,ªã,¶ãfã®æœ</b>
15.0M	15.0(1)M3
15.0S	Cisco 7600 ãšã,^ã³ 10000 ã,ãfªãf¼ã,°ãf«ãf¼ã,¿: è,,†ã¼±æ€§ãªã— Cisco ASR 1000 ã,ãfªãf¼ã,°ãf«ãf¼ãf^: <a href="#">Cisco IOS XE ã½ãfªf^ã.lã.šã.cã€</a>
15.0XA	15.0(1)XA4

15.0XO	è,,†â¼±æ€§ãªã—
ã¹½±éÿ;ã,'ã—ã'ã,< 15.1 ãª™ãª¼ã,¹ãª®ãªãª¼ã,¹	ãª"ãª®ã,çãª%ãªã,ãª,¶ãª,¶ãªãª®ãª®æœ
15.1T	15.1(2)T0a 15.1(1)T1
15.1XB	15.1(1)XB

Cisco IOS XE ã,¹ãªãª¼ã,¹ã,¶ã,ç

Cisco IOS XE ãªãª¼ã,¹	ãª"ãª®ã,çãª%ãªã,ãª,¶ãª,¶ãªãª®ãª®æœ€ãªªãª®ãªç®ãªãª¼ã,¹	æœªãªãªã
2.1.x	è,,†â¼±æ€§ãªªã—	è,,†â¼±æ€§ãªªã
2.2.x	è,,†â¼±æ€§ãªªã—	è,,†â¼±æ€§ãªªã
2.3.x	è,,†â¼±æ€§ãªªã—	è,,†â¼±æ€§ãªªã
2.4.x	è,,†â¼±æ€§ãªªã—	è,,†â¼±æ€§ãªªã
2.5.x	Vulnerable; 2.6.2 ãª¼ãªªãªªã,CEã»¥é™ãªª,ãª®ç§»è;CEãª™ã,ç	Vulnerable; 2.
2.6.x	2.6.1	2.6.2
3.1.xS	è,,†â¼±æ€§ãªªã—	è,,†â¼±æ€§ãªªã



## 翻訳について

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