S3900 SERIES SWITCHES TECHNICAL WHITE PAPER

AFTER-SALE INSTRUCTIONS FOR ERROR-PRONE ISSUES

# Contents

1. LINK AGGREGATION Function Configure Failed

1.1 Issue Description

The issue of LINK AGGREGATION function of the S3900 series switches. It cannot directly create a LINK group when configuring the LINK AGGREGATION dynamic mode. It needs to be added to the group directly in the port mode of the interface. The static LINK AGGREGATION function is to create the LINK group first. Add group members to the group in port mode.

1.2 Topology Information
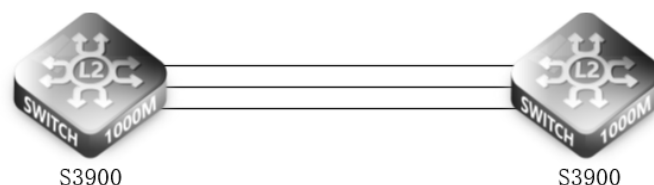
1.3 Handling Process

1. Use the CRT software to connect the device, configure the dynamic LINK AGGREGATION function on the device, first create a link aggregation group, and an error message will appear after adding the group members to the link aggregation group, causing the configuration failure.

```
S3900-FS-1(config)#interface port-channel 10

S3900-FS-1(config-if)#exit

S3900-FS-1(config)#interface ethernet 2/1

S3900-FS-1(config-if)#channel-group 10 mode auto

Add interface into static Channel-group 10 fail by dynamic mode.
```

2. The correct configuration of the dynamic LINK AGGREGATION function.

```
S3900-FS-1(config)#interface ethernet 2/1

S3900-FS-1(config-if)#channel-group 10 mode auto

S3900-FS-1(config)#interface port-channel 10

S3900-FS-1(config-if)#exit
```

3. Run the command *"show interfaces status port-channel 1"* to check whether LACP negotiation succeeds.

```
S3900-FS-1#show    interfaces status port-channel 1

 Group Type                    : LACP

 Port Type                     : 1000BASE SFP

 Link Status              : Up

 Speed-duplex Status         : 1000full

 Max Frame Size               : 1518 bytes (1522 bytes for tagged frames)

 MAC Learning Status        : Enabled
```

Member Ports	: Eth1/1, Eth1/2, Eth1/3
Active Member Ports	: Eth1/1, Eth1/2, Eth1/3

4. Active Member Ports: When Eth1/1, Eth1/2, and Eth1/3 are configured with the static LINK AGGREGATION function, if an interface is added to the link aggregation group without first creating a link aggregation group, an error message will also appear, causing the configuration failure.

S3900-FS-1(config-if)#channel-group 10 mode on

Failed to add ethernet 2/1 to channel-group 10

5. Correct configuration of the static LINK AGGREGATION function.

S3900-FS-1(config)#interface port-channel 10

S3900-FS-1(config-if)#exit

S3900-FS-1(config)#interface ethernet 2/1

S3900-FS-1(config-if)#channel-group 10 mode on

6. Run the command "show interfaces status port-channel 1" to check whether LACP negotiation succeeds.

S3900-FS-1#show interfaces status port-channel 1

Group Type	: Static
Port Type	: 1000BASE SFP
Link Status	: Up
Speed-duplex Status	: 1000full
Max Frame Size	: 1518 bytes (1522 bytes for tagged frames)
MAC Learning Status	: Enabled
Member Ports	: Eth1/1, Eth1/2, Eth1/3
Active Member Ports	: Eth1/1, Eth1/2, Eth1/3

1.4 Root Cause

To sum up, when the S3900 series switches use the LINK AGGREGATION function, the negotiation of the configuration of the LINK AGGREGATION function may fail due to a configuration logic problem.

1.5 Solution

When configuring the LINK AGGREGATION function, configure the LINK AGGREGATION function according to the standard configuration.

1.6 Suggestions and Conclusions

After the configuration fails, it is recommended to check the configuration first to see whether the configuration is configured according to the specified configuration template.

## 2. SSH Function RSA Fails to Import V2 Key

2.1 Issue Description

The issue of SSH function of the S3900 series switches. RSA can only import the V1 key, but cannot import the V2 key. The V1 key has low security. When the number of public key is larger than 2048 bytes, the import fails. When the public key is generated, if Subject: Administrator needs to be deleted, the switch cannot recognize Subject: Administrator. If the generated public key is "Comment" is "注释", change "注释" to "Comment", the switch does not recognize Chinese, "注释" needs to be manually changed to "Comment ".

2.2 Topology Information

2.3 Handling Process

1. CRT software is used to generate encryption and decryption pairs, and the generated public key is uploaded to the TFTP server.
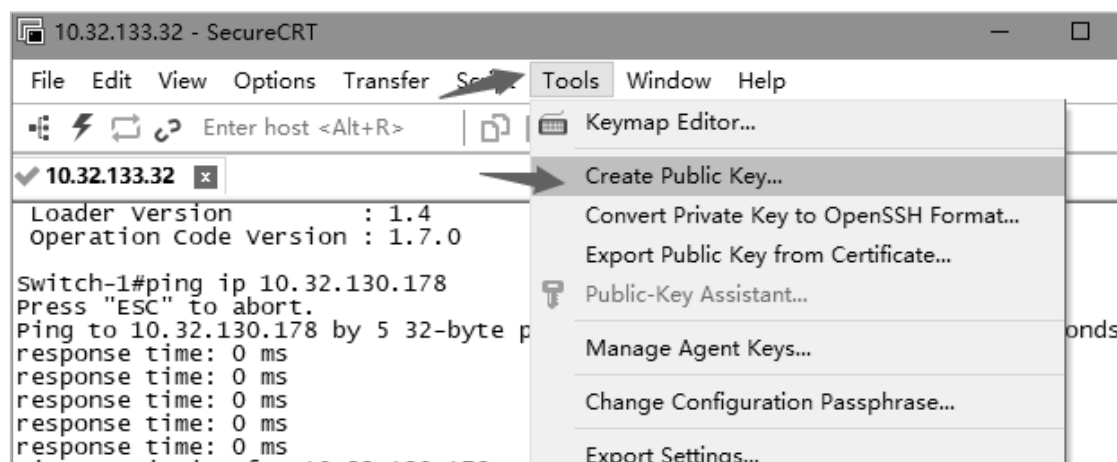
2. Upload the public key to the device

Switch-1#copy tftp public-key

TFTP server IP address: 10.32.130.178

Choose public key type:

 1. RSA: 2. DSA: <1-2>: 1

Source public-key file name: Identity.pub

Username: admin

Success.

Success.

3. During the transmission, if the number of the public key is greater than 2048 bytes, an error occurs in uploading.

Switch-1#copy tftp public-key

TFTP server IP address: 10.32.130.178

Choose public key type:

 1. RSA: 2. DSA: <1-2>: 1
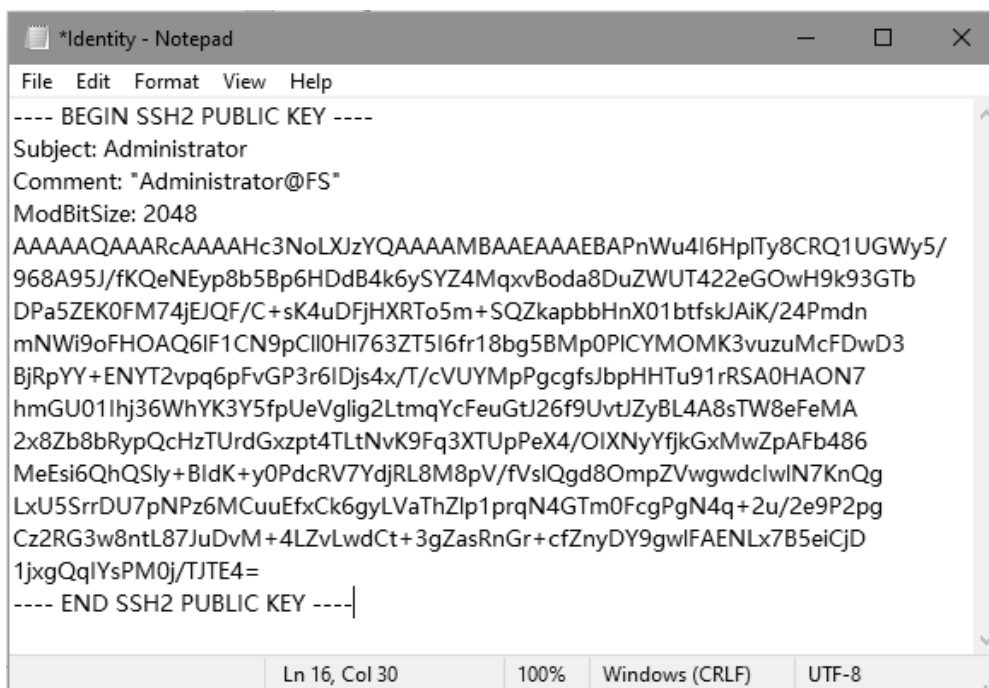
Source public-key file name: Identity.pub

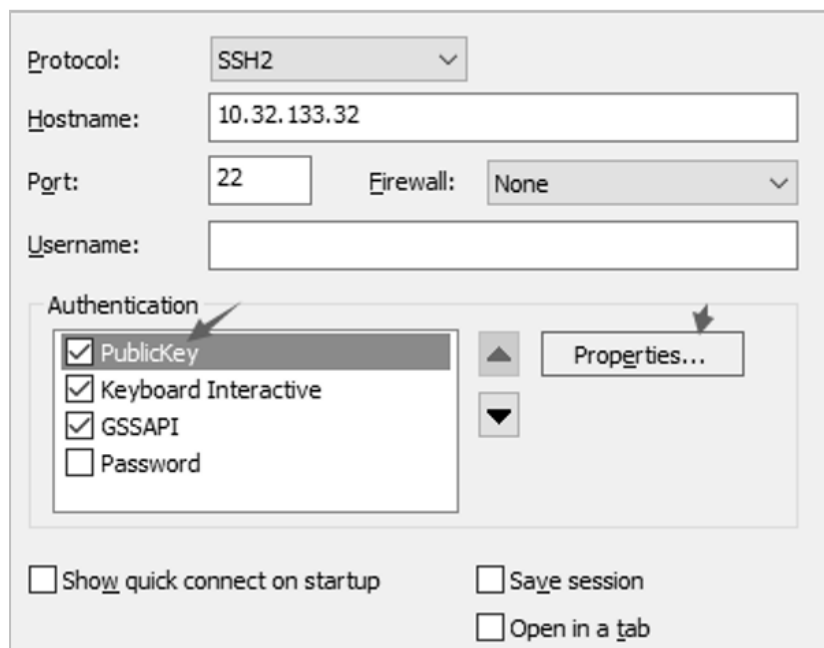Username: admin

Error.

Failed.

4. If there is a Subject: Administrator in the generated public key, you need to delete it before uploading it to the device. The S3900 series switches cannot recognize the Subject: Administrator.

If the"Comment"in the generated public key is"注释", change the"注释"to"Comment", the switch does not recognize Chinese, and the "注释" needs to be manually changed to "Comment".

5. Use the CRT software to select the private key generated by the connection to log in to the device.
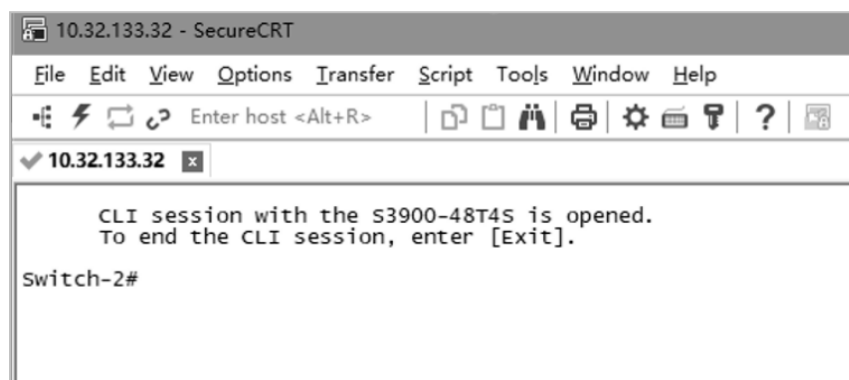
2.4 Root Cause

To sum up, when the S3900 series switches use RAN of SSH to import the V2 key, the maximum public key of the S3900 series only supports 2048 bytes due to the limitation of the public key bytes. Another problem is the public key format, the S3900 series switches does not recognize the "Subject : Administrator"and "Comment" are Chinese.

2.5 Solution

Sure the number of bytes of the public key must not exceed 2048 bytes when using SSH RAN to import the key.
Check the format of the public key and remove the Chinese annotations and the words "Subject: Administrator" when generating the public key.

2.6 Suggestions and Conclusions

Check the format of the public key when importing keys using RAN of SSH, pay attention to the number of public key bytes and the format of the public key.

3. STACKING Function Decouples Configuration File Recovery Failure Issue

3.1 Issue Description

The issue of the stacking function of S3900 series switches. After the stacking function is used, the configuration is saved during the stacking period. If the master device is decoupled first an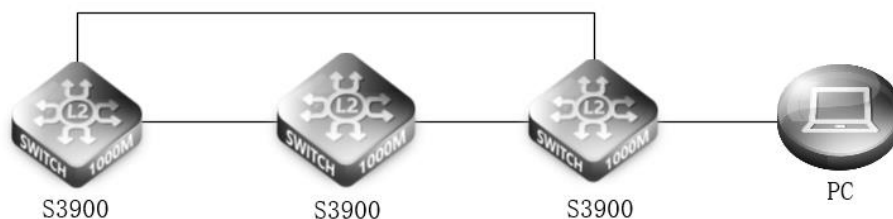d the stacking line is not pulled out, the configuration file of the slave switch is not restored to the configuration before the stack, but the configuration file during the stack is maintained.

3.2 Topology Information

3.3 Handling Process

1. Use the CRT software to log in to the three S3900 switches and enable stacking commands on the switches.

S3900-D(config)#stacking enable 1

S3900-D(config)#restart

2. The stacking device automatically closes non-stacking ports to prevent network flapping, which affects stacking efficiency during stacking.

Eth 3/ 1	1000BASE SFP	Down	Down	Auto	None
Eth 3/ 2	1000BASE SFP	Down	Down	Auto	None
Eth 3/ 3	1000BASE SFP	Down	Down	Auto	None
Eth 3/ 4	1000BASE SFP	Down	Down	Auto	None
Eth 3/ 5	1000BASE SFP	Down	Down	Auto	None
Eth 3/ 6	1000BASE SFP	Down	Down	Auto	None
Eth 3/25	10GBASE SFP+	Down	Down	Disable 10Gfull	None
Eth 3/26	10GBASE SFP+	Down	Down	Disable 10Gfull	None

3. Using the command "show stacking status" to view whether the stacking success or not.

S3900-24F4S-6-1#show stacking status

Switch ID   Config Status   Active Status

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   1   Y   Y

   2   Y   Y

2   Y   Y

4. Enter the command to save the device configuration on the stacked device, the Telnet on device login is interrupted. The device

configuration is saved. The configuration files of the stacked device are all synchronized, which will cause the management IP address to conflict. You need to log in to the device using the console cable.

S3900-24F4S-6-1#copy startup-config running-config

5. When stacking decoupling in three or more devices, first disable the decoupling command. The slave switch will neither restore to pre-stacking configuration nor stacked and switched, but the configuration file will be saved during stacking. Unplug the stacking cable will be normal. The following is the command to log in to the slave switch. The result is the same as the configuration on the master switch.

interface vlan 1

interface craft
  ip add 10.32.133.8 255.255.254.0

ip route 0.0.0.0 0.0.0.0 10.32.133.254

3.4 Root Cause

To sum up, the stacking function of the S3900 series switches has been saved after the stacking function is enabled, during the stacking period. If the master device is decoupled first and the stacking line is not pulled out, the slave switch will think that the master switch always exists, so no re-election will be conducted.)

3.5 Solution

As long as the stacking cable unplugged first, and then decoupled from the master device when disabling stacking function, configuration recovery failures will not occur

3.6 Suggestions and Conclusions

It is recommended to standardize the operation and unplug the stacking line before decoupling if decoupling is required when stacking more than three devices.

4. DAC Cable Connectivity Feature Consideration Issue

4.1 Issue Description

The issue of DAC cable connectivity of the S3900 series switches. When S3900-48T4S series switches do not enable port negotiation, a 5 meter DAC cable port will not be LINK UP.

4.2 Topology Information

4.3 Handling Process

1. Use the CRT software to connect the device without enabling port negotiation. Then use the command "show interfaces status ethernet 1/51"to check the port status, which appear"DOWN".

S3900-FS-1-1#show interfaces status ethernet 1/51

  Port Type   : 10GBASE SFP+

  Link Status   : Down

  Speed-duplex Status   : 10Gfull

  Max Frame Size   : 1518 bytes (1522 bytes for tagged frames)

  MAC Learning Status   : Enabled

2. Enable Auto-negotiation Mode on the ports on both sides of the device.

S3900-FS-1(config)#interface ethernet 1/51

S3900-FS-1(config-if)#negotiation

3. Use the command"show interfaces status port-channel 1"to view the port status information.

S3900-FS-1-1#show interfaces status ethernet 1/51

  Port Type   : 10GBASE SFP+

  Link Status   : Up

  Speed-duplex Status   : 10Gfull

  Max Frame Size   : 1518 bytes (1522 bytes for tagged frames)

  MAC Learning Status   : Enabled

4.4 Root Cause

To sum up, when using a 5-meter DAC cable to verify the cable connectivity function of the S3900 series switches, the port of switch cannot enable auto-negotiation by default but manually enable it.

4.5 Solution

It needs to enable the auto-negotiation function on the port when S3900 series switches using a 5-meter DAC cable.

It is recommended to use 1 meter or 3 meters DAC cables for high stability when using DAC cables for S3900 series switches.

4.6 Suggestions and Conclusions

It is recommended to enable the auto-negotiation function on the port when using a 5 meter DAC cable for S3900 series switches.

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