启明星辰

k ˝ ĭ ﻭ ᵽ

Ṫ ⱶ ȉ ɺ ɺ Ɱ Ḡ ȷ ˜ Ά ĭ ⁀ ’

1 Ṫ ꜔ ἳ ⅃ ỤḠ ǚ ̃ 1

1.1 Ṫ ꜔ ἳ ⅃ ᵍ ₦Ổ 1

1.2 Ṫ ꜔ ἳ ⅃ ʌ ṝ ẻ ɱ 1

1.3 Ṫ ꜔ ἳ ⅃ Ḡ ῷ Ⅵ 3

1.4 Ṫ ꜔ ἳ ⅃ ٻ ᶻ ỤḠ 4

2 Ṫ ꜔ ἳ ⅃ ỤḠ ḍ ǚ 6

2.1 Ṫ ꜔ ἳ ⅃ ⅃ Ⅳ ⅃ ₌ 6

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6 ᵏ ˮ ĭ ۏ ᵱ ꓲ ɜ Ṫ ⊦ ȉ ꓲ Ⴤ /\| 50

1 ◓ /| ᛇ ɅĄ

1.1 ◓ /| ᛇ ˝↑

Industrial Internet Consortium(IIC) AllSeen Alliance Open Interconnect Consortium(OIC) 6

Accenture

ɺ Ṫ í ɺ ˥ ʊ ụ ɺ ᶇ ʃ R ɩ ɺ /\ ق ì Ĕ Ḿ ɺ /\ ˝ ớ ̎ ݓ ⅝ /\ Ṫ ₅ ʊ ק

Ụ ק ˦ /\ ʠ̀ u ̎ Ặ ގ Ὼ̣

ǘ ḯ ʃ ת ˵ ɰ ˥ Ṫ ǘ ḯ ز ɺ ɰ ˥ Ὼ̣ ˦ Ȁ Ḣ Ẕ ꞁ ⊢ ɨ̈ ɺ ф

ʅ ⊃ Ẉ ǘ ḯ ʃ ת ˌ ∂ ʌ ک Ḿ ╤ ˌ ɨ Ὼ̣ ⊃ Ụ ق Ф ʻ ⊃ ʃ ת Ẋ ɺ ᵀ Ὼ̣

Ḣ ■ Ὼ̣ ĩ ˈ ṭ Ṫ ⊢ ɨ̈ ɺ / Ọ ḯ ˥

1.3 ˗ /\ ɺ ᾀ̣ ˥

ʆ Ḳ " " " ẖ ɺ ˪ ˝ ώ " ʌ ṟ ⊢ ɨ̈ ɺ Ȁ ע Ẕ ꞁ " Ṅ₇ ˥ ꞁ Ặ ụ ꞁ в ɲ ⊃

‰ ˥ ȯ ʊ ⊢ ɨ̈ ɺ ª Ф ª ؤ ³ Ẕ ꞁ ژ ɨ̈ ụ ˚ ◊ Ƕ ⊃ Ẕ ꞁ в ª ụ ص

Ȁ ע Ẕ ꞁ ̃ Ṫ ˥ ȯ ʊ ؤ ᾀ̣ Ȁ Ở ɺ ẻ ᾀ ὴ̣ /\ ᵀ ؤ ᾀ Ẕ ꞁ ɹ ̃ Ȁ ق /\ ڇ ȝ

" ɺ ώ ݓ Ụ ╥ ⊃ ↓ ɨ Ὸ ח ḯ ˥ ώ " ᵋ Ụ ⊃ ̃ ˥ ת ↨ Ẉ

2013 ẉ 2 ώ 5 ŋ̣ ʆ ח ٹ ʌ ụ ʆ ח ٹ Ƕ ȯ ق ⊢ ɨ̈ ɺ ῶ ẑ ẞ ʌ ṟ Ẏ Ṁ Ỵ ȸ

Ƭ پ ᵖ ώ ⊢ ɨ̈ ɺ ɺ /\ Ụ Ḡ è ᶇ ☺ ᶇ ڽ Ǘ Ớ ˌ ꞁ Ặ Ậ Ṁ ꞁ ȯ ɹ ᶇ ᵍ ⊐ ώ

Ḡ ˡ í Ặ ק Ḡ Ỵ √ ├ پ Ụ ˦ /\ Ḡ ˥ ת ⊃ Ὼ̣ ɨ̈ ꞁ Ặ ⊢ ɨ̈ ɺ پ Ẕ ꞁ ⊃ ˦ /\

Ḡ ╜ √ ˡ ڔ √ ⊃ Ḡ گ ɨ̈ Ṫ ڬ ⊢ ɨ̈ ɺ پ ᵍ ̃ ф Ậ پ ˪ ח ˦ /\ ⊃ پ ᵖ ؤ

³ Ẕ ꞁ Ḡ ˡ í

2017 ẉ 1 ώ 17 ŋ̣ Ṫ ⊃ Ụ ק ʠ ȯ ʊ ⊢ ɨ̈ ɺ ẞ ῶ ẑ ʌ ṟ ḧ Ụ ụ

" " " ẖ ⊢ ɨ̈ ɺ q ᶇ ʌ ụ Ƕ м ʌ Ụ ụ Ф ʌ ṟ ẖ 2016 2020 ẉ

ụ ̃ ʌ ụ Ụ ụ Ф ʌ ṟ ẖ ⊢ ɨ̈ ɺ q 2016 2020 ẉ ؤ ɺ ʃ ḳ ẖ

Ṅ ώ " Ḡ ڬ ḯ ˥ ˪ ח ώ ȯ ق Ƕ ڇ Ḡ Ḣ ˌ ʌ ⊃ ק ⊃ ã ˥

Ḡ ڬ ˦

1.4 ˗ ʌ ʌ ڭ

˫ ȉ ˩ ˋH ˩ ʌ Ḡ ẻ ת ̐ ≡ ῶ Ã ̉ r ٩ ٩ ȋ ق ì ф ˀ ̄ ^ ỉ گ ̄ ʅ ʊ ǔ ȋ ˫ ȉ ˩ ˭ ȉ ˩ Ṅ Ն Ȯ ٩ ˭ א ẖ ٩ ق ƥ ۷ ̕ ^ ꟷ ƥ ˩ ʌ ٩ ῷ ˡ ȋ ψ ă ˫ ת ٩ ˘ ẖ ḱ ỵ ˜ Ṗ ф ˀ ˩ ʌ Ṃ ڑ ˫ ת Ṃ ڑ ق ì ᴾ ˀ Ω̈ ʮ ^ ẽ φ ƀ ẍ ǟ ᴾ ̇ سٍ پ ᴾ Ƕ ├ ^ ₭ ʑ h ₩ ˫ ȉ ˩ Ḡ ʧu ج - ỵ ˜ Ṗ ф ˀ Ḡ ớ ̋ ى ي Ṯ ف ẖ

╤ ß ḍ ὃ Ã ᴭ

2015 ẉ 2 ῷ 27 ῄ ᾱ Ḡ ⌒ ^ ụ Ƕ ۷ o Ḿ ̉ ╤ ß ḍ ὃ ˘ í ф ˀ ق Φ ͇ [redacted] ˭ Ḡ ʅ ɖ ڽ ˜ Ꮃ Ꮧ Ḡ گ ᵝ ╤ ß ḍ ὃ Ꮡ ꟷ ˘ í ф ˀ ɋ Ẏ پ Ḡ ڭ Ǘ ա ɦ ф ˀ Ṯ ɋ ᴸ ᵁ IP ş ϫ í ̇ Ẋ ʟ ∂ ᴿ ş ۷ o ق Φ ͇ [redacted] Ȃ ŗ Ḡ ʅ ɖ ╥ ڽ Ḡ ڭ Ǘ

˗ ʄ ╤ Ș ʑ ͇ Ꮃ ȉ ˩ Ă ˩

2016 ẉ 10 ῷ 21 ῄ 11:10 UTC(ˀ ˋH ڑ 19:10 ṫ ᴸ)Ủ Ỵ ٷ Mirai í ̇ Ȍ ˩ ʌ Ḿ ʄ ᶟ ᵉ ȮП ᴴ ˀ ת ȮП Ẕ ƀ Dyn ^ ۷ DDOS ῷ ǟ Ṁ ƥ ^ ˩ 1 ƥ ʄ ╤ Ș ş ת Ḡ ۷ ^ ̃ چ ǟ % ₭ ˩ ʌ ˩ ث ỉ ȋ ʑ ʮ ˫ ȉ ˩ ф ˀ ——ɣ ủ ȉ ˩ Ą ˘ ˭ Ω̈ Ȅ ẹ ف ф ˀ ỉ ɨ · سٍ Ẏ ǟ ɋ ʅ

Ꮡ ˫ ȉ ˩ Ḡ

2007 ẉ ˋH ʄ א Ở ʌ ک • Ő Ọ ỉ ʕ ^ ɋ Õ ת ʎ Ọ ỉ ڽ ᴴ ῄ ʎ ق ì ɩ ỉ · Ў ǟ ʅ ف ɋ ὃ ˫ ȉ ˩ ῷ چ ǟ خ ḱ ỉ

2008 ẉ ᴸ ᵉ 14 Ṡ Ṉ ẉ ʅ ῷ Ŀ ص ɔ ὃ b

2011 … 2011 … -170 …

…

2013 …

… SkyJack …

…

2014 … Tesla Model S …

…

g̡ 1 WannaCry ❙ ◿ ƽ ⅜

ỳ ᵥ WannaCry ❙ ◿ ƽ ⅜ Ṁ₇ Ṉ Windows ◿ / ɿ ῎A ἅ ᴘ ╫ ῎A L

̉ ˊ ȋ ɰ ⑊ (PC) Ḡ Ḳ ˝Y̧ ⊦ ȉ ◿ (IoT) ἅ ˊ ‰

῀Ω IoT Institute ȉ Ṁ ؛ ỳ س i̱ ᵽ Ḻ ḗ í ˙ Ḳ ở □ ᴴ ⌊ W ⸸

ȍ ≡ ȕ ↔ ἆ ἂ س i̱ ⸸ ὢ̨ ˋ ɔ ◿

RFID

2.2

2.2.1

a)

b)

[illegible]

c) [illegible]

[illegible]

d) [illegible]

[illegible]

e) [illegible]

[illegible]

f) [illegible]

[illegible]

g) [illegible]

[illegible]

2.2.2 [illegible]

[illegible]

a) [illegible]

[illegible]

b) [illegible]

[illegible]

c) [illegible]

[illegible]

2.2.3 [illegible]

[illegible]

a [illegible]

[illegible]

b [illegible]

[illegible]

c [illegible]

[illegible]

d [illegible]

[illegible]

3 ◓ /| ^| ڙ ₱

3.1 ৶ ڙ ₱

Ṫ ⊦ ῗ ⅃ Ẕ ݣ Ṗ Ḡ ݛ ∂ ɣ ύ

a) ݗ ݖ

f) [illegible]

[illegible]

g) [illegible]

[illegible]

3.2 [illegible]

[illegible]

a) [illegible]

[illegible]

b) [illegible]

[illegible]

3.3 [illegible]

[illegible]

a) [illegible]

[illegible]

b) [illegible]

[illegible]

c) [illegible]

[illegible]

d) [illegible]

[illegible]

e) [illegible]

[illegible]

f) [illegible]

[illegible]

g) [illegible]

[illegible]

h) [illegible]

[illegible]

i) [illegible]

[illegible]

4 [illegible]

4.1 [illegible]

[illegible]

4.2 ⅎ ̏Ο

GB/T35317-2017 Ḡ ⱶ ῗ ⅃ ⅎ ⅄ Ụ Ḡ ⅄ ⅄ ῗ ⌊ ∂

GB/T35318-2017 Ḡ ⱶ ῗ ⅃ y̰ ˜ ⅎ ⅎ Ḡ گ ї Ḣ ⌊ ∂

GB/T35592-2017 Ḡ ⱶ ῗ ⅃ y̰ ˜ ⅎ ⅎ ỉ Ḡ Ḣ ⌊ ∂

GB/T 25070 Ụ Ḡ Ḣ ⅃ ⅄ Ḡ ⅄ ⅄ ї ⱶ ῗ ⅃ Ḡ Ф щ Ḣ ̏Ү ᴇ

YD/T 2437-2012 ⱶ ῗ ⅃ Ở ↑ ‶ Ḣ ⌊ ∂

YDB 101-2012 ⱶ ῗ ⅃ Ḡ ⅄ ∂

Ụ Ḡ Ḣ ⅃ ⅄ Ḡ ⅄ ⅄ ї Ḡ Ф щ Ḣ ⌊ ∂ ȅ ∂ Ү ȣ Ч

Ụ Ḡ Ḣ ⅃ ⅄ Ḡ ⅄ ⅄ ї ╜ V̈ ⌊ ∂ ȅ ∂ Ү ȣ Ч

Ụ Ḡ Ḣ ⱶ ῗ ⅃ ̏Ω̰ ̃Ω ڗ Ḡ ⌊ ∂ ȅ ∂ Ү ȣ Ч

Ụ Ḡ Ḣ ⱶ ῗ ⅃ y̰ ˜ ⅎ ⅎ Ẕ ⅂ Ḡ Ḣ ⌊ ∂ ȅ ∂ Ү ȣ Ч

Ụ Ḡ Ḣ ⱶ ῗ ⅃ y̰ ˜ Ṗ ⅃ Ꙋ Ḡ Ḣ ⌊ ∂ ȅ ∂ Ү ȣ Ч

Ụ Ḡ Ḣ ⱶ ῗ ⅃ Ḡ v ᾰ ₩ ȝ з ۊ ⅂ ⌊ ∂ ȅ ∂ Ү ȣ Ч

ⱶ ῗ ⅃ ’ 2011 w̰ Ṫ ⁼ Ụ ק ൂ ɔ . Ⅵ ٹ

ⱶ ῗ ⅃ ’ 2016 w̰ CAICT ʄ ۊ ٹ

Ṫ ⱶ ῗ ⅃ ’ 2017 w̰ ʄ ɔ Ḓ Ḣ ‰ ק Ⅵ ٹ

4.3 ʬ Ạ

Ṫ ⱶ ῗ ⅃ Ф Ẕ ⅂ ẖ ẂẌ ┌ ڤ ټ ɲ ⅝ ێ Ɛ ȝ Ẕ ⅂ ʆ ˜ ⁝ ̃ΩƬ ʆ ˜ ɲ ⁼ ᴩ ‘ ’ ᴿ ʆ ˜ Ḡ ڏ ێ ⁼ ∂ ṄṪ ⱶ ῗ ⅃ ⅃ ⅄ Ḡ ȷ ˜ Ά ɒ ʆ ˜ Ẕ ⅂ ڨ Ф ۏ ⅎ ڬ

4.1

图 4

4.3.1.1

WiFi

ZigBee 4G-LTE

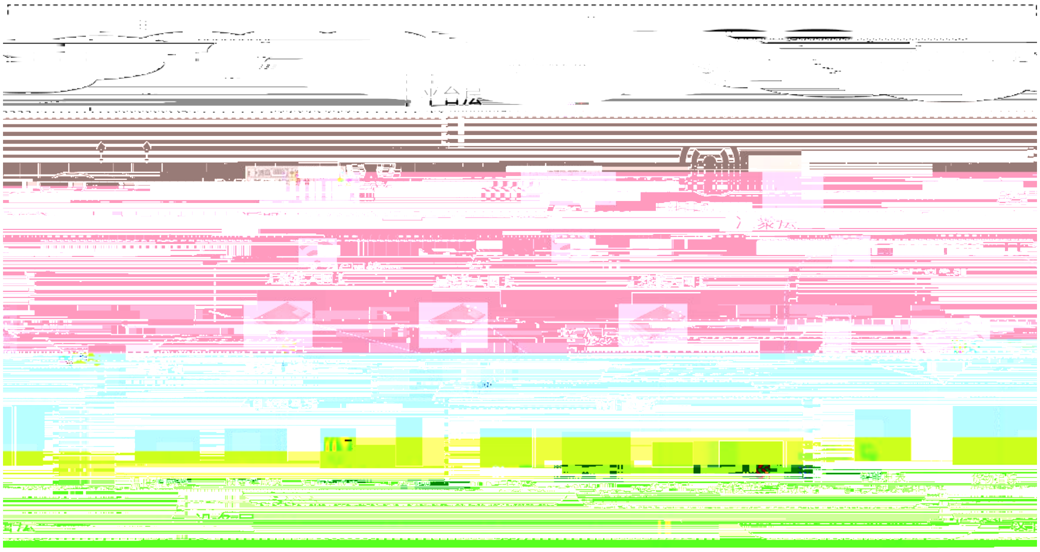
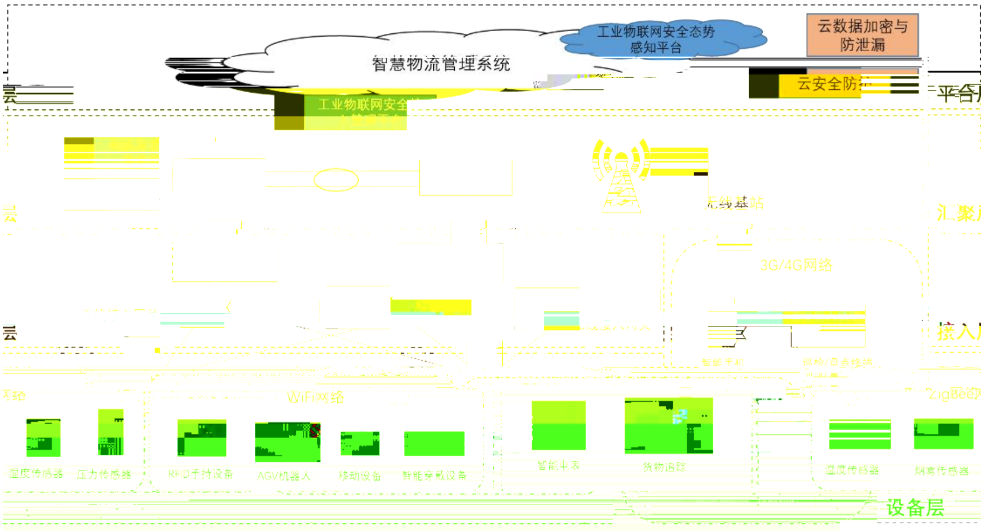


图 5

4.3.1.2



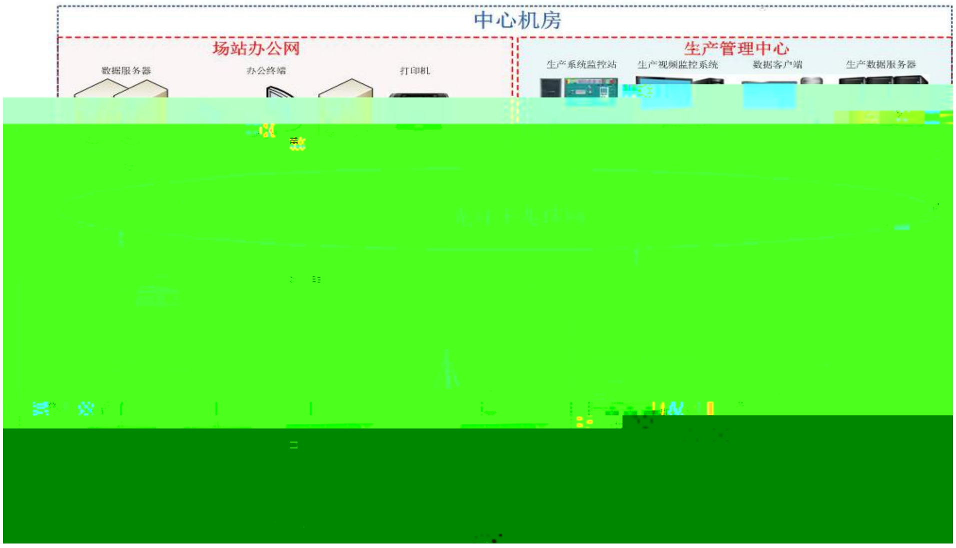
[illegible]

4.3.2 [illegible]

[illegible] RTU [illegible] PLC DCS [illegible] ERP [illegible]

[illegible] RTU [illegible] Modbus TCP [illegible] DCS [illegible] PLC [illegible] OPC [illegible]

4.3.2.1



7

a) RTU … RTU … Modbus … IP MAC … RTU …

b) … RTU … Modbus …

c) …

Άǐ ֆщǥ ˡ ˜ ˛ ẖ`Hٮ ᴷ`Oπ ᴴ ˥ǘ ˊ ώ ʌ ɨ ˝Y ˇ í ɨ ˝ΏΏ ̃پ ˻

ĭ ل ɫ%ᵽ% Ị`Oπ ᴴ ɅΛ ژ ɋ Ẕ ϋ ˈ ῳ ᵍ Ḡ ĭ ỉ ד ᵃ`H ˈ `Oπ ᴴ ᴿ ɻ

Ⅎ ˦ ֆ ˈ ڗ ڼ پ ɿ Ṫ ɿ Modbus TCP ʙ ɲ ɫ%Ẕ ǰ ɿ ɿ Ṫ گ ♀ ᵑ ڤ

ΦḠ گ ĭ

Ṫ گ ♀ ᵑ ֆ ˈ ˡ ώ Ḡ گ ĭ ỉ ד

a) ɅΛ ڭ گ ĭ ỉ ד ڼ صۃ ڈ í ˙ h ῶ ῷ ڭ `Oπ ᴴ ת ³ RTU ʮ ת ³ Ę

RTU í ˙ ת · ۊ ḍ ǘ`HṄϋ `Oπ ᴴ ת ³ ڤΦῶῷڭ

b) ώ i ῷ` ỉ ד ˈ ʮ RTU ֆ ˈ ڼص 3G/4G ɅΛ `Oπ ᴴ ת ³ ڤΦ˝ΏΏ ڼ

g ɫ%èᵽ · ۊ ỏ Λ`Oπῷ` ˡ ỉ Ṫ گ ♀ ᵑ ˡ ώ ڗ Ḿ ^ ˦ ỏ Λ`Oπῷ

` ῶῷگ ἐ ɟ

c) Ṫ ʙ ɲص ▄ ŷ ȷ ʻ ỉ ד ɅΛ ڼ ʙ ɲ ˻ ĭ ModbusTCP ʙ ɲ Ṫ

گ ♀ ᵑ ڗ Ḿ Modbus TCP ʙ ɲ ˡ ẖ א Ḿ ᴿ ɻ Ṫ ˝Y ▄ ŷ ص

Modbus/TCP ▄ ŷ ȷ ʻ ₩ę ˡ ˜ḤʽY Ẕ ɿ Ṗ ɻ ɻ ŷ í ˙ ڼصف ˦ Á Ã ˡ -

Ṫ ɅΛ ᵽگ ĭ ֆ ˈ ڳĂ`H ˛ א ȃẂ ڼصف ˦ Á Ã ˡ ῶῷ ₅ ᵍ

Modbus TCP ʙ ɲ ȃẂ ĭ ᾰ Ẋ ڤΦῶῷ ڳĂ ڼصM ɲ ˭ ẖگ ɨ ɅΛ

ת ˡ ȃ ˦ ᴠ ᵀ | ɲ Modbus ˝Y ˚ ˜ ڼص Modbus TCP ▄ ŷ ȷ

ʻ گ ĭ ₩ę ˡ ȃ ˦ ᵀ | ᵊ ᴅ ڳ฿ | ˭ ĭ ᾰ ڼص ǁ ώ ػ Modbus

TCP ɅΛḠ گ ĭ ỉ ד

d) Ⅎ ˦ ì Ḡ ₅ ỉ ד ˈ ^˝Ώ RTU Ⅎ ˦ èᵽ ˡ ˜ ڤ ḥ ḟ ˦ ⁼ ᴾ ɫ%

w RTU ֆ ˈ ڤΦ˝ΏΏ ɻ ῳ ɲ`Oπ ᴴ ˝ΏΏḠ ɭ ڙ ڍ ػ ڼصṪ گ ♀ ᵑ

ˡ Ḿ ᵀ | Ⅎ ˦ ֆ ˈ ڤΦ IP MAC ֆ ˈ ˝Y ɻ ˕ ⁞ ˜Ώֆ ˈ ᵃ ừ ˛ Ă ĭ ᵋ ˡ

ẖ א ˦ Ṳ Ṿ˛ ˭ ɹ ȟ ᾰ ẖ א ڳĂ ʻ ɹ ȟ | ֆ ˈ ì Ḡ ˊ

ꟷ ꟿ ꟻ ꟻ˜ Ͱ ü

Ḿ Ṫ ⱶ ȉ ɹ ɺ ɻ ₼ ȿ ì Ḡ Ά ɭ ٶ ڝ ƥ ɹ ꟿ Ɥ Ṫ ⱶ ȉ ɹ Ḡ ì

ɺ ɻ ꟹ Ṫ ⱶ ȉ ɹ Ḡ ì ɹ Ƕ ḫ ɤ Ḿ ᵀ | ɺ ɻ ₼ ȿ ì ɒ - ꟹ گ ȉ

ɻ˜ ü ՈO

ˬ ȉ ɹ ɭ ì ɹ ꟿ ف ì ̀Oռ ᴴ ₼ ȿ ʐ ɹ ɭ ٶ ڝ - ɒ - ש ڀ ᾰ ɪ RTU+Ṫ ⱶ ȉ

ɹ Ḡ ì ɺ ɻ ᵅ Ά ᴵ ì Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ Ṫ ⱶ ȉ ɹ Ḡ ì ɹ Ƕ ٶ ڝ Ḡ

ɻ ῶ ʙ ɲ ẵ ɻ ف ì

Ḁ̃ ̏O ̎

Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ ɤ ʆ RTU ₼ ȿ ώ Ḿ ì ̀Oռ ᴴ ɺ ɻ ώ ɿ ɭ ٶ ێ ᴭ

RTU ₼ ȿ Ḿ ì Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ ̀H ᴵ ḫ ɤ ɹ ḧ گ ₿ Ꮭ | ₼ ȿ ì ì ᵅ

Ω̏Ω̃ ᾰ ẻ Ằ Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ ᵅ ɿ ʄ ɭ ɿ | ẵ ɻ ɿ ɭ Ḡ ڙ ٶ ێ Ω̏

Ω̃ ٶ ڝ Ḡ ɹ ꟿ ٶ ێ ʌ ڳ ⱶ ȉ ɹ ì Ọ̀Oռ ᴴ ڤ Φ ȷ ɭ ȷ ɭ ᵅ Ω̏Ω̃W ⊃ ῶ ٶ g ʙ

ɲ Ω̏Ω̃ ̀Oռ ᴴ ڤ Φ Ω̏Ω̃ ڙ

♪ RTU Ͱ ɨ

ȷ Ḿ ɤ ʆ RTU ₼ ȿ خ Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ ف ᴵ RTU ₼ ȿ ώ ɹ ꟿ Ḡ گ ȉ

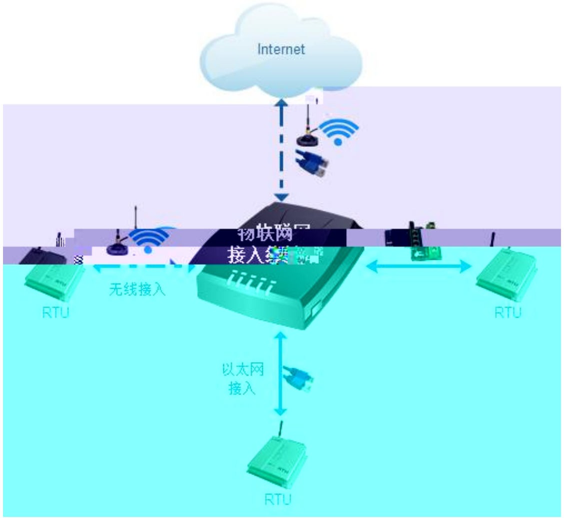
ȉ ꓔ ɣ ʋ̇ ̏Y ˆ ᵉ ᴅ ằ Ẃ Φ ʌ ɤ ڲ Ằ ₼ ȿ ꜛ ȭ ₅ ꟿ RTU ₼ ȿ Ꮭ ȿ ᵍ

ɹ ꟿ Ḡ گ ȉ ȉ ꓔ

ü ف ɺ ̏Ḥ

Ṫ ⱶ ȉ ɹ Ḡ ì ɺ ɻ ᴵ ώ ɻ ì Ά Ã ɤ ʆ RTU ₼ ȿ Ḿ ì ɣ ʋ̇ ῶ ɺ ᶿ ɹ

RS485 ì ᴭ ḫ ɺ ì ڟ Ꞁ ƀ ɹ ꟿ ᾰ WIFI ɻ Ά Ã Ꮭ ì ừ ḅ


Internet
物联网
无线接入
RTU
以太网
接入
RTU
RTU

4.3.3

4.3.3.1

a)

b)

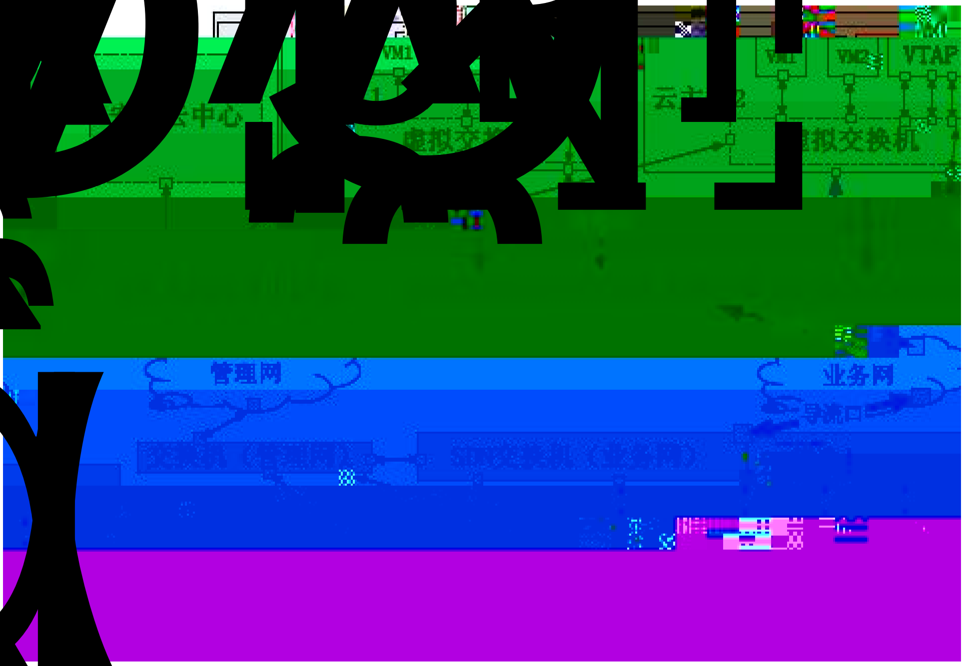
c)

d)

Mirai DNS DYN DDOS

ꝥ Ī Ẕ ẗ ẜ ̃ ⊦ ї ⅃ Ḡ گ ї ⅃ ꞩ￼ɰ̄ ₩Ã ꞁ ꝥ ⊦ ї ⅃ Ꝕ ꝉ ⅂ ì Ṗ پ ẗ

' ٹ


VM1
VM2
VTAP
虚拟交换机
管理网
业务网

у ᴸ ǓŌ ڗ ђ ᵇ ╙ ٍ ṇ̀ | پ ֿ ⁄ Ḡ ф ٳ ڤФ ₅ ╝ Ị щ ў

◗ ' Ⅎ Ⅎ ᵀ h ⌊ ∂ پ ֿ Ⅎ ⁄ Ω̣̃ Ά ᵅ ˡ Ṅ ǓŌ ╙ ٍ Ṃ ˙ Ḡ ˚ ◊ –

ڤФ ₅ ╝ Ị щ ٻ ᵀ ǓŌگ ♀ ᵯ ڗ ҏگ ♀ ᵯ ф ٳ ˡ ◗ ' Ⅎ Ⅎ ᵀ h̉

Ƕ ⌊ ∂

♀ ڣ ⁄ ẁ ڨ փگ ڎ ڦ

Ḡ ᵝ ǓŌ ÃẦ ψ̄ ρ ᵻ ⌊ Ẉ ᴶ ώ CPU ŋ è ˎ ˋ Ⅎ Ⅎ ˚

◊ Ḡ ᵝ ǓŌ ḳ ˜ Ǔ ռǓ ï ˉ CPU Ⅎ ˚ ◊ ẽ ᵠ ռǓ ớ

ἱ ˉ ҆ ǓŌ ρ Ḡ ˚ ◊ – ռǓ ʌ ˧ CPU ŋ è ˎ ˋ Ⅎ ˚ ◊ ï ڤ ¯

҆ ψ̄ ˮ ═ o˚˚ ṈḾ Ẉ ᴶ ɿ ᵀ w ῶ ῷ ں ŋ ψ̄ Ḡ ǓŌ Ά Ṿ ռ

و ٍ ا ڗ

5.1.1.2 Ά̣Ö

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⌠ ٍ

ڤ ⁄ ⁴

ầ ═ ᶾ Ω̣̃ΩḠ Ω ɿ Ƕ

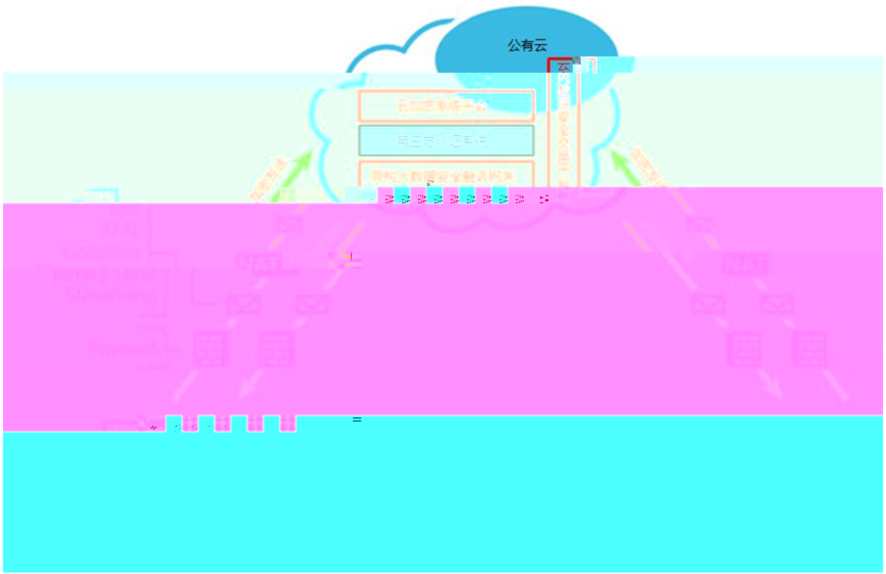
ầ ═ ᶾ Ω̣̃ΩḠ Ω ɿ Ƕ ⌊ ɉ ˜ ڗ ầ ═ ᶾ Ω̣̃Ω ڗ Ḡ Ω ʒ Ƕ پ ֿ ǓŌ ρ

Ω̣̃Ω Ḻ ă ɿ Ậ ʒ Ḡ Ƕ ï ǀ Ḣ ḫ א ŋ ڗ ᶾ Ω̣̃Ω ḫ Ḣ Ḡ Ω ʒ Ƕ

ᶾ Ω̣̃Ω ڗ ڶ ˮ ֿ ɉ Ḻ ɿ Ƕ

پ ֿ ڶ ˮ ֿ ɉ Ḻ Ḣ ḫ א ڗ Ω̣̃Ω ڗ ῷ ỵ Ω̣̃Ω ŋ ḳ ֿ Ḻ ḫ א ҆ ҆ Ω̣̃ΩḠ گ ⌠ ٍ

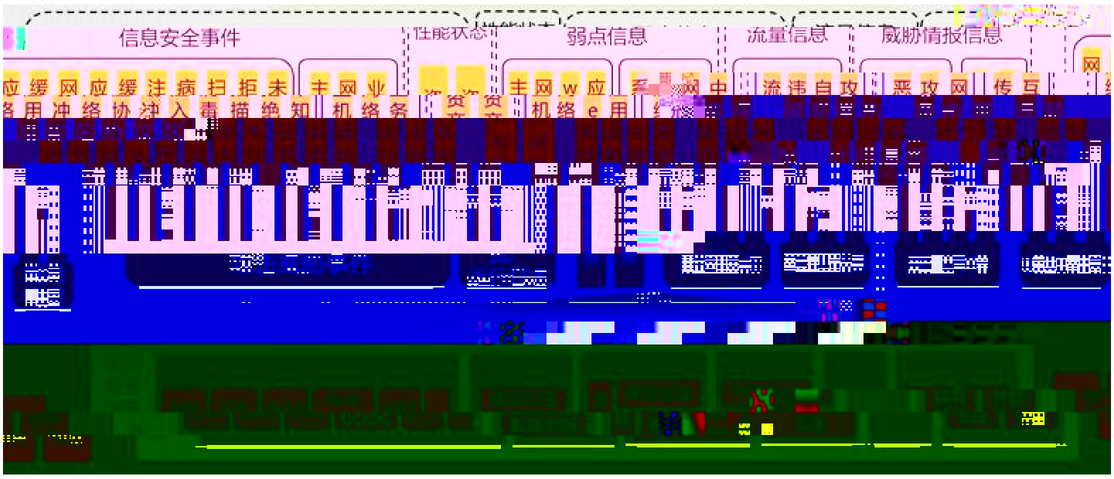
⁄ VPN ֿ Ḻ ɿ Ⅎ ۇ ێ Ⅎ Ḣ ᵃ ᶾ Ω̣̃Ω ڗ ڶ ˮ ֿ ɉ Ḻ ɿ Ƕ ﹔ Ḿ ῷ ỵ Ω̣̃Ω ŋ ḳ ڤ


公有云

5.1.1

ủ Ḡ Ậ ̋Ḥ ɣ ủ Ṯ ῶ گ ♀ ɱ ₅ ╜ ﻟ Ḡ ᵝ ̋Eὠ Ậ ̋Ḥ ɣ ủ ◖ ╓ ̋Eὠ ب

ɹ ̋Eὠ ﻟ ẓ Ф Ụ ⊦ ΐ ɹ ʆ ៛ ʆ ៛ ɹ ʎ ʆ ៛ ﻟ



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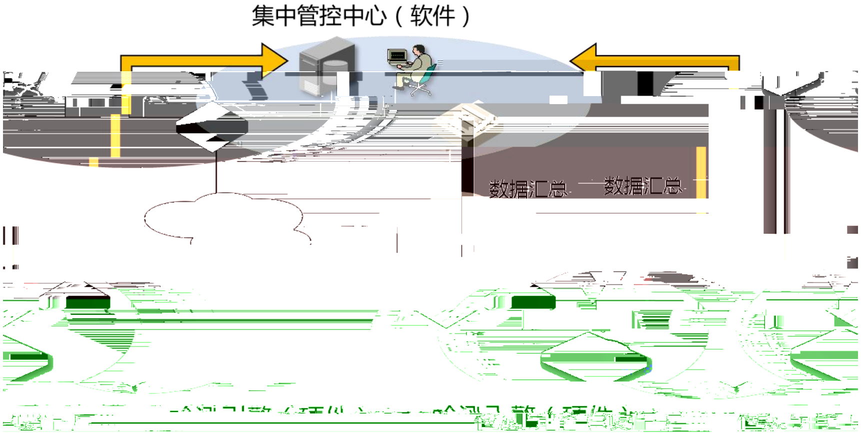
5.1.2.1

DDOS



16

序号	规则编号	规则名称		操作
1	5000084	HTTP_可疑行为_恶意的User-agent SAHAgent	已启用	
2	5000085	HTTP_可疑行为_恶意的User-agent STORMDDOS	已启用	
3	5000086	HTTP_可疑行为_恶意的User-agent AsyncHTTPAgent		

17

异常报文检测

序号	规则编号	规则名称	状态	操作
1	300000[illegible]	IP报文头错误	已启用	

18

2 TCP UDP HTTP DNS 60 300

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ᛰ ᛋ ╙ ᛁ ᛰ ᛋ ╙ ầẂ╙ ῳ ḧ ᛭ Ḡ O

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ف ᛱ 4

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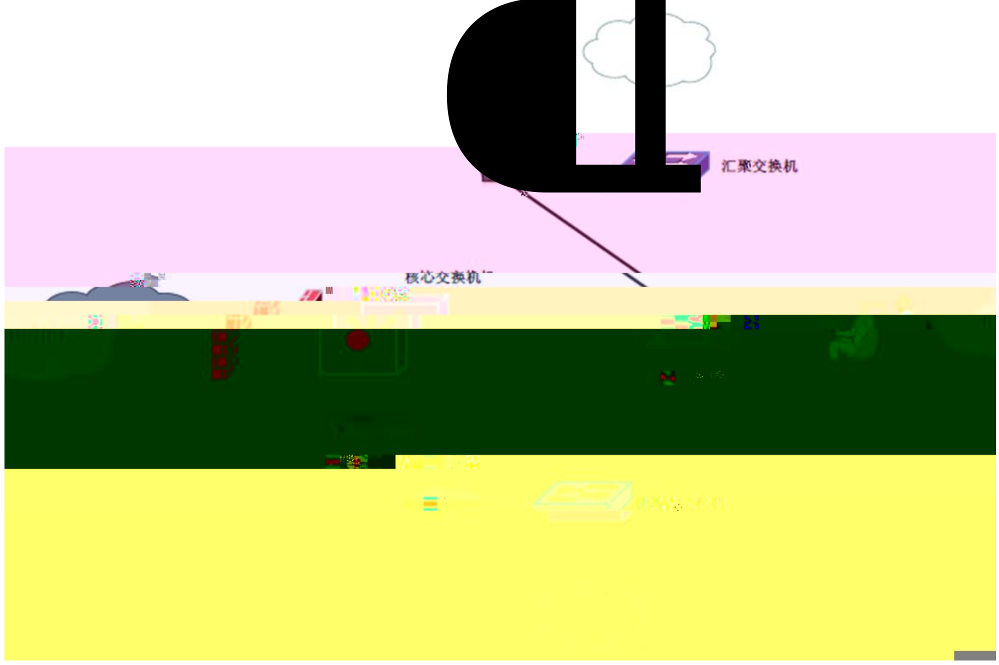
ᛰ ᛋ ῼῼ 5 ╝ ẬʺḤʺH ɣ ᛰ ╡ v ő



ჟ 20 ῭Ọ῀Ω ╙ Ḡ ʿ ʻ ⋪ ⁄ ⋓ῆ ₩Ã

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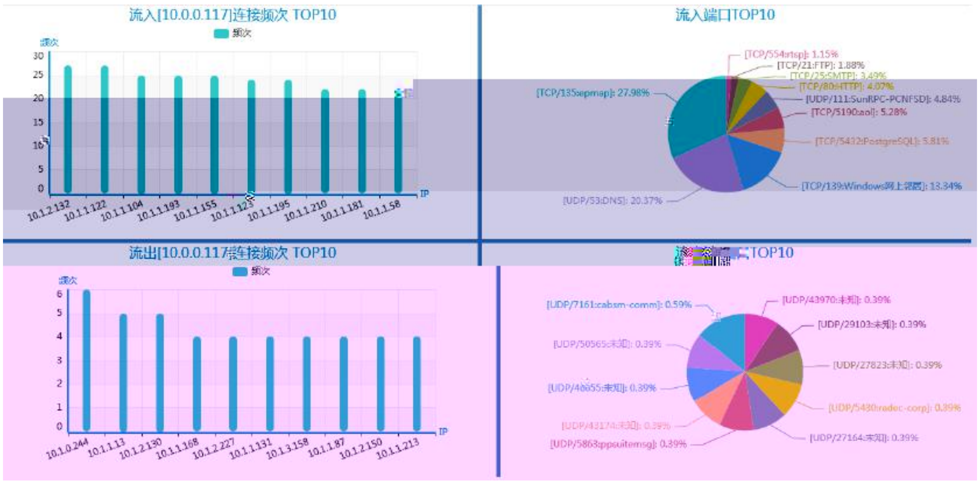
Ḡ ³ ῗ ˘ ί y Ớ ἔ ჟ ẻ Ã ṛ א ₌ ῆ ᾶ ⋓ḩ Ḡ ³ ڗ ῗ ҥ ⋪ ʒ Ꞇ ۺ ᵉ ᴅ ⅄

ȝ ῀Ḥ'Y ˘ ί ჟ ɲ ḳ ص ῀Ḥ'Y ჟ ẻ Ḿ ع ڤ ῀Ḥ'Y ˘ ί ჟ ⁄ ῳ Ṁ ἕ м ⋪ ῭Ḥ

Top IP IP

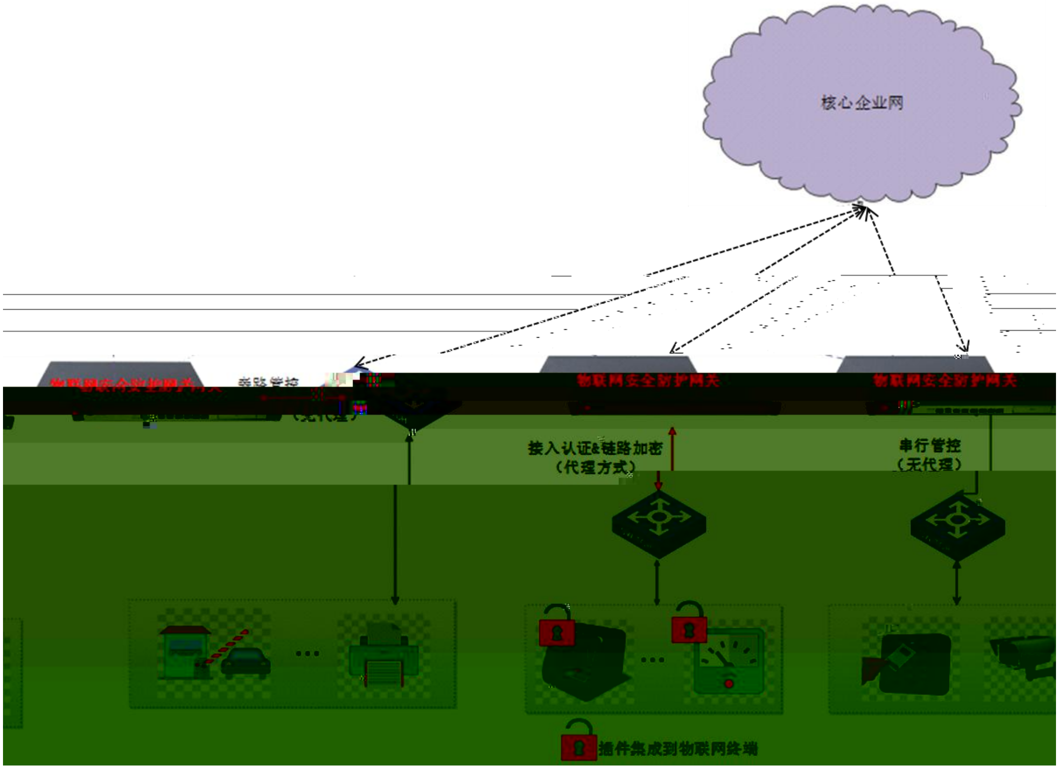


22

ARP DDoS

5.1.3

5.1.3.1



核心企业网
物联网安全防护网关
物联网安全防护网关
接入认证&链路加密
（代理方式）
串行管控
（无代理）
插件集成到物联网终端

• ŋ Ω̃

5 ʊ ʌ א ⊦ ĭ ˩ ф ˨ Ẋ ĭ ḫ א ф ˨ ⁼ ˩ /ˀ ǁ ɮ ˡ ǒ ק ᵒ א

‰ L

g զ ʊ ˝Y ˧ ˙H Ḿ ⊦ ĭ ˩ ф ˨ ã ˥ ˝Y ˧ ᵍ ˧ Ẋ ق Φ ḻ ŋ̋ ḫ א ⊦ ĭ ˩ ф ˨ ˊ í

◦ ȸ

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∟ ύ

̃Ḥ˙Y5 ḧ ŋ ķ س ᵉ ᴅ ˥ í Ậ˝Ḥ ̃Ḥ˙Y 300 ^ ˦ ʙ ɲ ψ ͅ 24 ˦ ˥ ظ ˥ ˦ ǔ

ɜ̈ ظ ˥ ˦ ⁼ ^ ˦ ̃Ω̰ ̃Ω ˦ ʒ ˡ ḫ א ب ˩ ͅ ᵇ ⊦ ĭ ˩ ņ ʙ ɲ ŋ ǩ ᵉ ᴅ h ̤ ̃Ḥ˙Y ͅ ᵇ ẁ̤

` گ ĭ ⁼ ȅ س ᵉ ᴅ h ̤

ʓ̣ Ů

̃Ḥ˙Y ʝ Ḿ ˩ /ˀ ņ ╚ ͅ5 ẹ ı ĭ ĭ ᶻ5 ʊ ʌ א˚ ق ì ӈ ˦ ņ ʙ ɲ ɜ Ẕ

ʔ Ṗ ǁ ɮ ˝Y ᵍ % ˡ ɜ ˈ ˧ ᾰ Ḡ ǁ ɮ í h ̤

5.1.3.2 ▬ /ˀ ˥ ü ˦ Ᵽ

˥

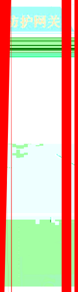
Ṫ ⊦ ĭ ˩ ì ˥ ת Ẉ ᴶ ˡ ᵃ ˋH ḫ א Ḿ ^ ᴶ ⊦ ĭ ˩ Ḡ گ ĭ ˩ ӈ ﻮ ˥ í Ḿ Ṫ

⊦ ĭ ˩ ỵ˜ Ṗ ф ˨ ق Φ /ˀ /ˀ ᵀ ˥ ת ̃Ω̰ ᵒ א Ṫ ⊦ ĭ ˩ ì Ṗ ф ˨ ì ꜛ õ ق ì ӈ ˦

Ḡ ꜛ õ ﺤ ẙ ˡ ǒ ק ﻮ ᵒ א ỵ˜ Ṗ ф ˨ Ḡ א ꜛ

ف /ˀ ⁴

Ṫ ⊦ ĭ ˩ ì ˥ ת Ẉ ᴶ ق ᴿ ⊦ ĭ ˩ Ḡ گ ĭ ˩ ӈ ﻮ ẉ̣ ﻮ ᴿ Ḡ گ ĭ ˩ ӈ ̃Ω̰ ̃Ω



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26

5.2

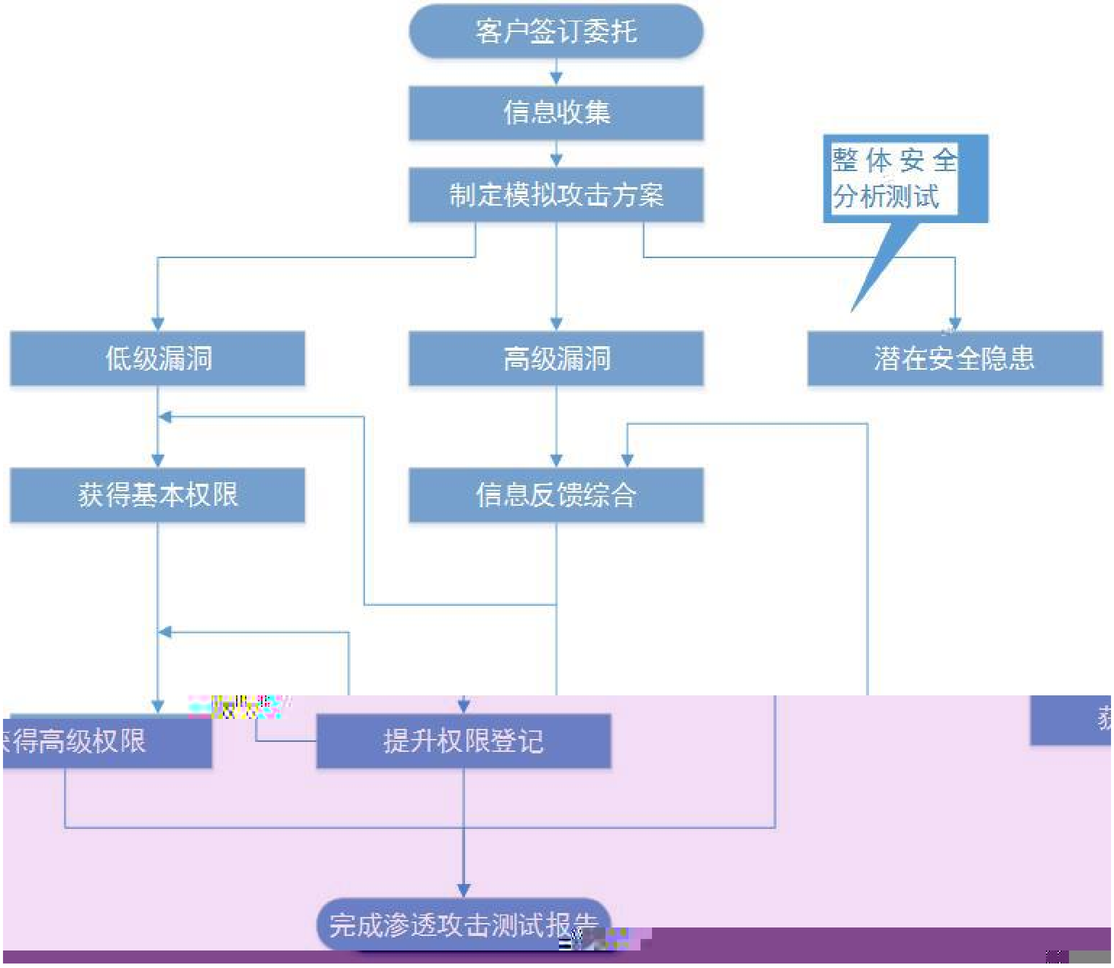
5.2.1 IIOT

90%

代码调试
平台检测
人工分析
修复及建议
二次验证
结果汇总

5.2.2 IIOT

5.2.3 IIOT



ց 28 ▒ ڶ ╜ ؛ ՝Օ ռ ╙ ߁

a ḭ ӒḒ Ἕ

ḭ ӒḒ Ἕ ǐ ᵏ ˝ ĭ ᴻ ڨФ▒ ڶ ╜ ؛ ￼ ọ ﻞ ỉ

b ḩ Ạ Ά ỉ ˛ ɲ

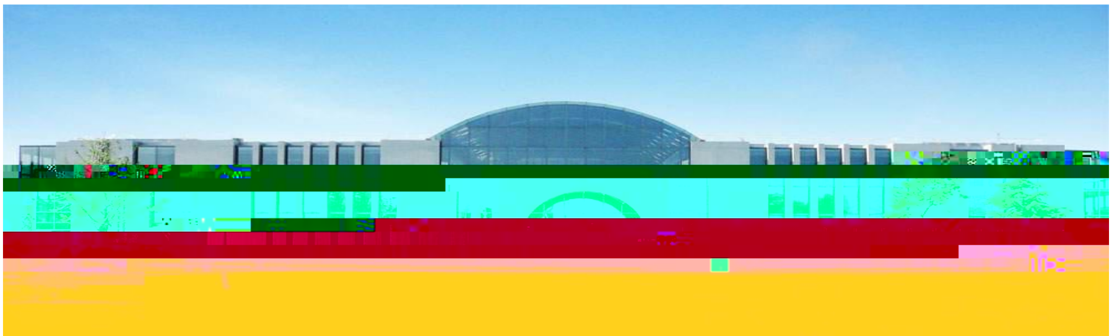
˭ ά Ḓ Ἕ Ẋ ª Ү ḩ Ạ Ά ỉ ǐ ڨФ▒ ڶ ╜ ؛ ￼ ọ ﻞ ỉ Ẕ ί˛ ḭ ӒḾ▒ ڶ ╜ ؛

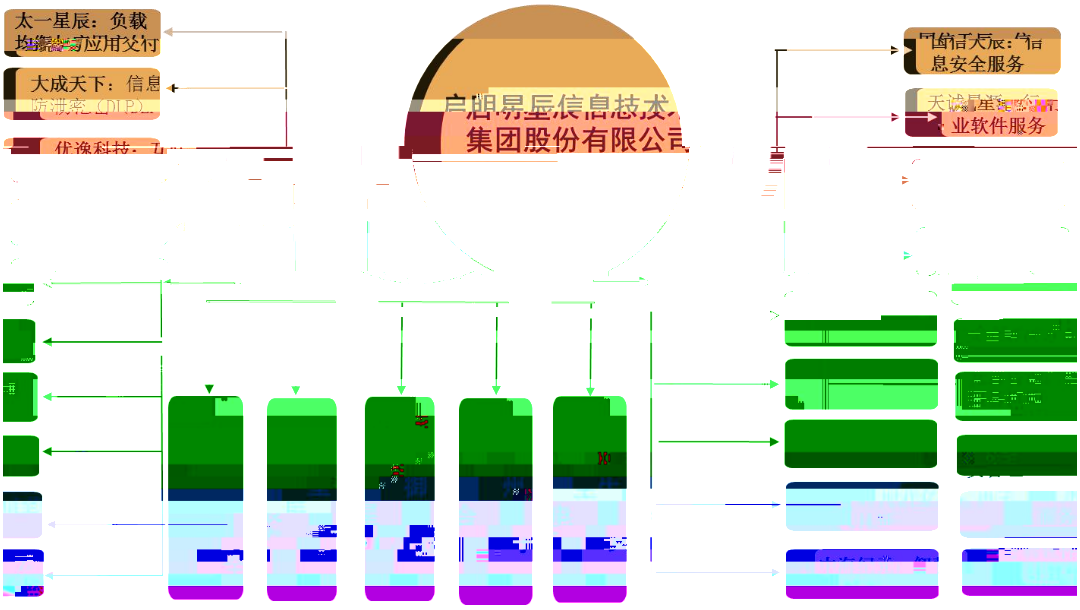
Ӓ ῶ ⅎ ` ᵓ ﻝ ﻰ ￼ ˜ ˡ Ӓ ῶ ﺹ ߁ ᵰ ᵽ ḭ Ӓ￼ ί ˙ ڨФ ڧ ĩ ▒ ڶ ╜ ؛ ՝Օ ռ ﺱ ḭ

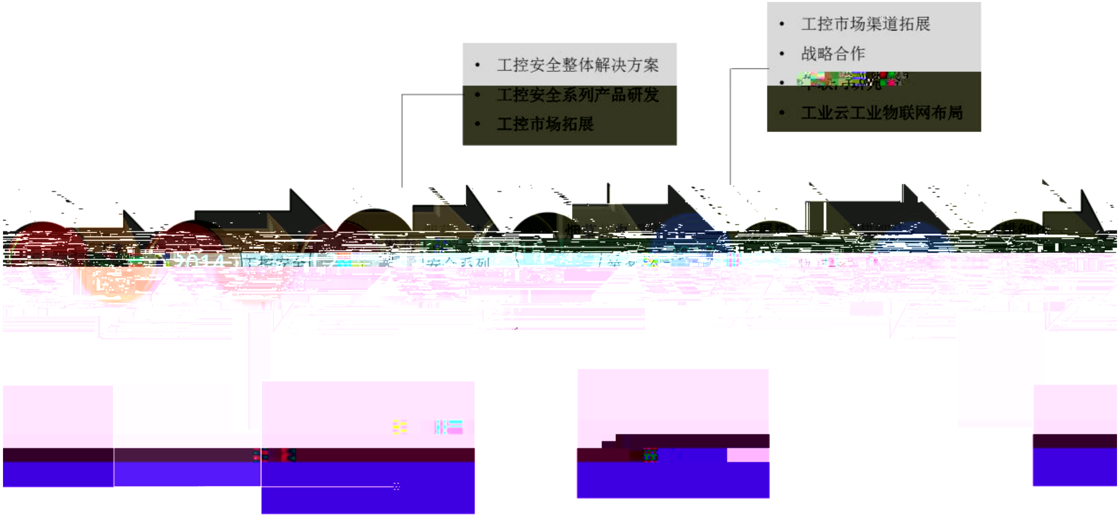
ῷ` ￼ و ª

c Ụ ῴ ﻮ ˋ ʻ

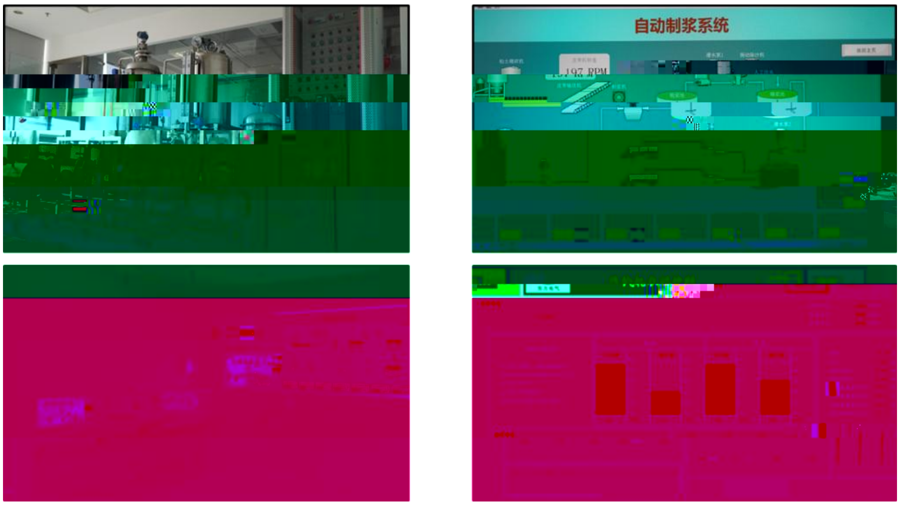
Ụ ῴ ﻮ ĩ ⅛ ℓ ▒ ڶ ῷ` ￼ ώ ﻲ ص Ụ ῴ ﻮ ˡ ῶ ؛ Ḿ ớ ş ˙ ћ ₩ Ὸ ῷ` ╜ ؛ ɰ




太一星辰：负载
大成天下：信息
集团股份有限公司
息安全服务
业软件服务


工控安全整体解决方案
工控安全系列产品研发
工控市场拓展
工控市场渠道拓展
战略合作
工业云工业物联网布局

ꞡ 32 ₌ ᵇ ῗ ⅃ + Ṫ ʒ ΰ ῗ Ֆ ꜝ Ụ Ḡ Ṫ ٩ ḫ ڿ ί ⅃ ᾰ

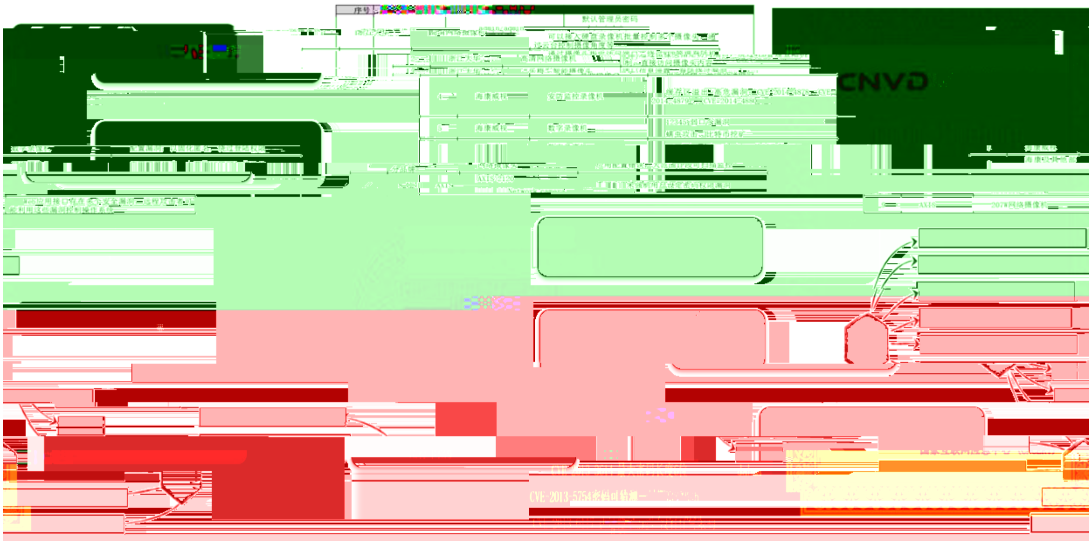


ꞡ 33 ₌ ᵇ ῗ ⅃ + Ṫ ʒ ΰ ῗ Ֆ ꜝ Ụ Ḡ Ṫ ٩ ḫ ڿ ί א ʆ

ᵏ ” ĭ ῚO ῶ ꞁ ῶ ` ᵉ Ụ Ḡ ῳ ڰ Ή ꝥ ڪ —— ٧ ǁ ڰ ḫ ڿ ί ADLab ΐ ḫ ڿ ί ῳ 70 ᵉ ٩ ⅃ ꟿ Ḡ س ḭ Ʊ ȭ ⁼ ◂ ╓ ת Ά ₌ Ḳ Ʊ ⁄ Ọ ᾰ ᵔ ꝑ ʄ ڰ ⅃ ꟿ Ḡ ꞁ Ʊ ῶ Ẹ ᵉ ẙ ᵅ n ệ ʄ ڰ ⅃ ꟿ Ḡ ⅃ ⅃ ⁼ ΐ ̨ ╖ ῳ Ʊ Ḳ n ⁼ ٧ ᴺ Ά₆ ´ ᵏ ” ĭ ADLab ٧ ǁ ڰ ḫ ڿ ί پ ص ʄ ڰ CVE ⅃ ⅃ ʌ ụ Windows Linux Unix Ḥ ⅃ ꟿ Ḡ ◂ ╓ Ώ ̨ ṗ ╖ ث . ٦ ꝑ ⅃ ꟿ Ḡ ؤ ³ ⁄ Ọ ʂ ᾰ Ḡ ᵝ ⁄ Ọ Ή ڬ ADlab ذ Ω ↾ Ḻ ˤ ڧ ʄ

GPS

Android



34

T-Box TSP APP

Authorization App

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Ṫ í˙ ˧ ˦ ỤḠ

ۏ ̈Ω í˙ ˧ ˦ DCS Ḡ ˧ ˧˚ ‰´

ˡ ˩ ˥ ẑ í˙ ᴴ PLC ˧ ˦ ỤḠ ˪ ∂

Ụ ˧ ˦ Ḡ ˧ ˦ ï ᵍ ˪ ∂ ḾṪ í˙ ˧ ˦ ̈E ṛ Ḡ ˪ ∂

ʄ̣ ק Ṫ í˙ ˧ ˦ ỤḠ گ ï ʽH h

ɔ ˥ ˘ í ˧ ˦ ˩ ˧ Ḡ گ ï Ṁ

♦ δ Φ Ṫ í˙ ˩ ˧ Ḡ ʽH h