Selection Technology for Trustworthy Connection

FUJITSU LIMITED

Organization verification and connection are realized in cyberspace by mutually providing and verifying organization-specific information (Results and business conditions) between organizations and connecting the organizations based on the verification results.

Application Area

Semiconductor / Packaging | IoT | ICT vendor

Manufacturer | Infrastructure | Distribution

Local Government | Building / Smart City

Technology Features

- **Construction of a network environment composed of selected organizations in cyberspace**

  Information on the organization's unique physical space, which indicates its existence and capability, is disclosed and verified among participating organizations using TFC of each organization, and the uniqueness of the organization verified in physical space and cyberspace is guaranteed.

- **Continuous security protection of the entire network for information disclosure and verification between organizations**

  Security measures and risks against security threats are shared among distributed TFCs, and threat measures are automatically applied to continue the security protection of the entire network.

Effects

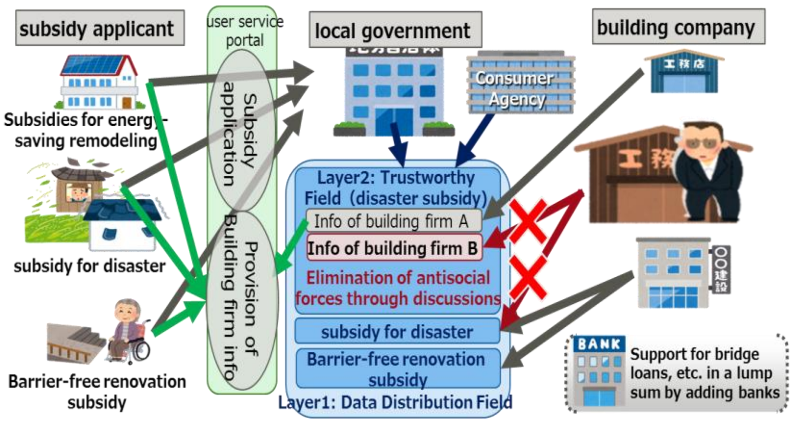
- To prevent connection with an unauthorized organization by enabling identification of an independent real-world partner organization and identification of a connection in cyberspace
- Preventing damage from spreading to the entire network by automatically deploying security threat countermeasures across the entire network where information is provided and verified

Use case

- **Local government subsidy application projects**

【present】 An applicant is looking for a building company, etc., and an improper contract with an unscrupulous enterprise occurs.

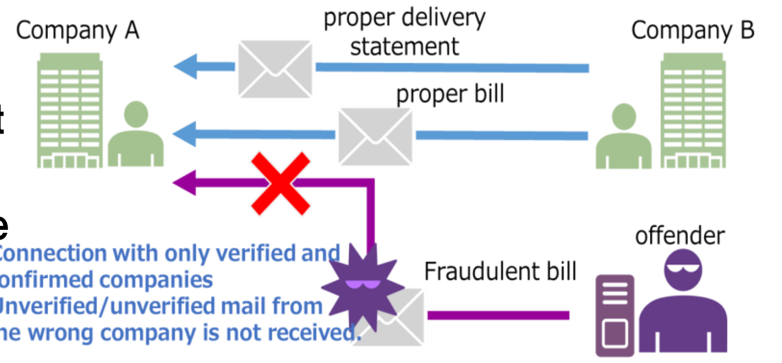
【applied】 Applicants selects a building company from among building companies whose soundness has been confirmed in cyberspace.


subsidy applicant
user service portal
local government
building company
Subsidies for energy-saving remodeling
subsidy for disaster
Barrier-free renovation subsidy
Subsidy application
Provision of Building firm info
Consumer Agency
工務店
Layer2: Trustworthy Field (disaster subsidy)
Info of building firm A
Info of building firm B
Elimination of antisocial forces through discussions
subsidy for disaster
Barrier-free renovation subsidy
Layer1: Data Distribution Field
○○建設
BANK
Support for bridge loans, etc. in a lump sum by adding banks

- **Manufacturing supply chain**

【present】 In the case of a billing that is made only through confirmation of the party in cyberspace, such as e-mail, a fraudulent billing is made by a party different from that in the real world.

【applied】 Guaranteed the uniqueness of the person identified in the real world and the person connected in cyberspace



·Connection with only verified and confirmed companies
·Unverified/unverified mail from the wrong company is not received.

By using this technology, the authentication of the other party in the physical space is realized in the secure cyber space, and only the organization which has been confirmed and verified is connected

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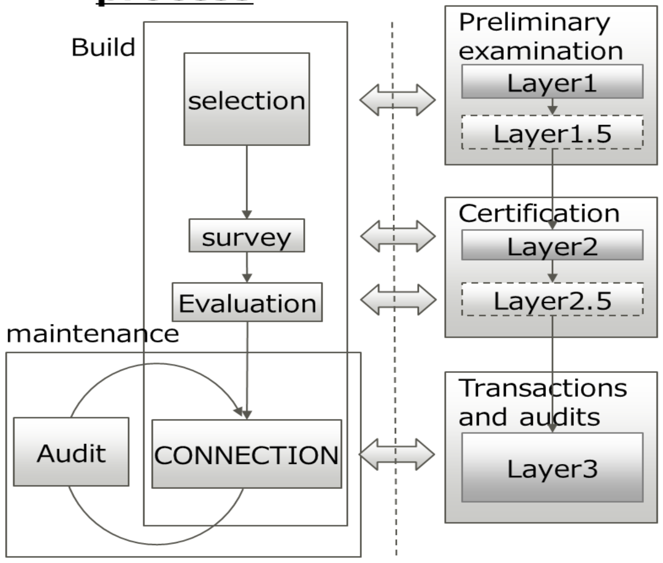
■ Construction of a network environment composed of selected organizations in cyberspace

- Three-layer modeling of data structures and processes that allow cross-validation of organization-specific information that indicates presence and capability
- Verifying the organization's unique information step by step on a three-layer model and selecting organizations
- Interconnecting selected organizations based on mutual agreement

supply chain Trust formation process

Trust formation model



Trust information distributed within each layer

Layer1: Data Distribution Field [existence confirmation]

■ Information that indicates the function or state of the organization
Corporate information, credit information, governance information, ISO acquisition information, etc.

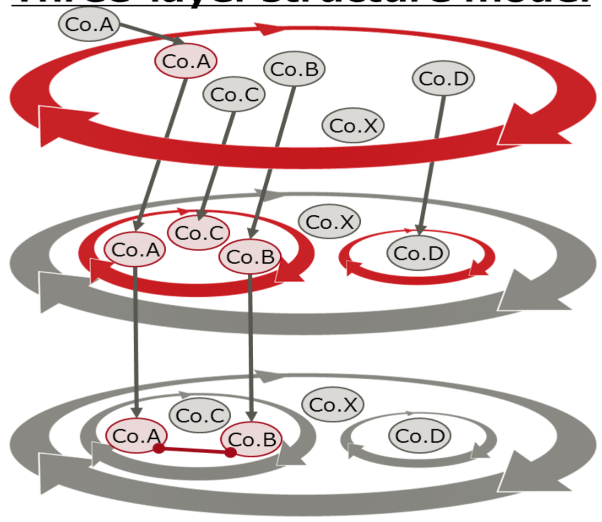
Layer2: Trustworthy Field [capability confirmation]

■ Data indicative of organizational capacity
Plan, scope, and past offerings
Performance, user feedback, etc.

Layer3: Data supply Chain Field [execution confirmation]

■ Data showing the organization's ability to execute
Usage application information, usage qualification retention information, usage history, contract information with business operators, etc.

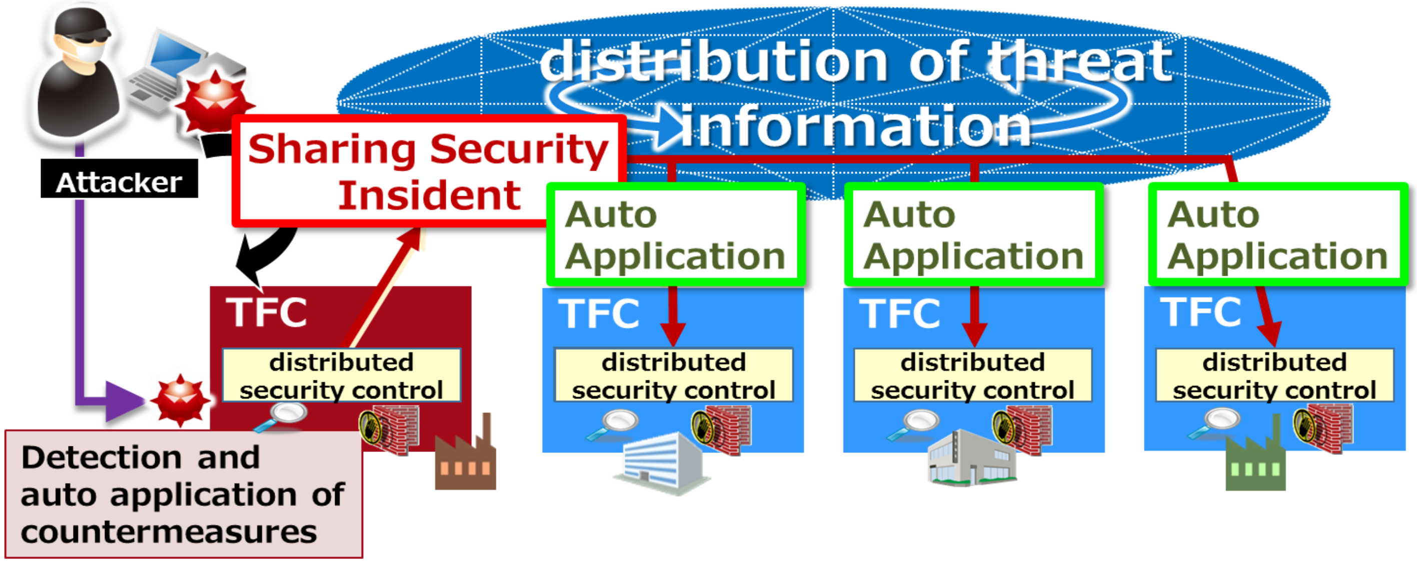
Three-layer structure model



※The above information is organized in reference to digitization of manufacturing and administrative procedures.

■ Continuous security protection of the entire network for information disclosure and verification between organizations

- Traffic on the three-layer model is monitored at each distributed control node（TFC)
- Analysis of detected threat invasion level and TFC automatically applies threat countermeasures according to invasion level
- In addition, threat countermeasures are shared among TFCs, and countermeasures are automatically deployed throughout the network



distribution of threat information
Attacker
Sharing Security Insident
Auto Application
Auto Application
Auto Application
TFC
distributed security control
TFC
distributed security control
TFC
distributed security control
TFC
distributed security control
Detection and auto application of countermeasures

Contact

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内閣府 Cabinet Office NEDO SIP Cross-ministerial Strategic Innovation Promotion Program