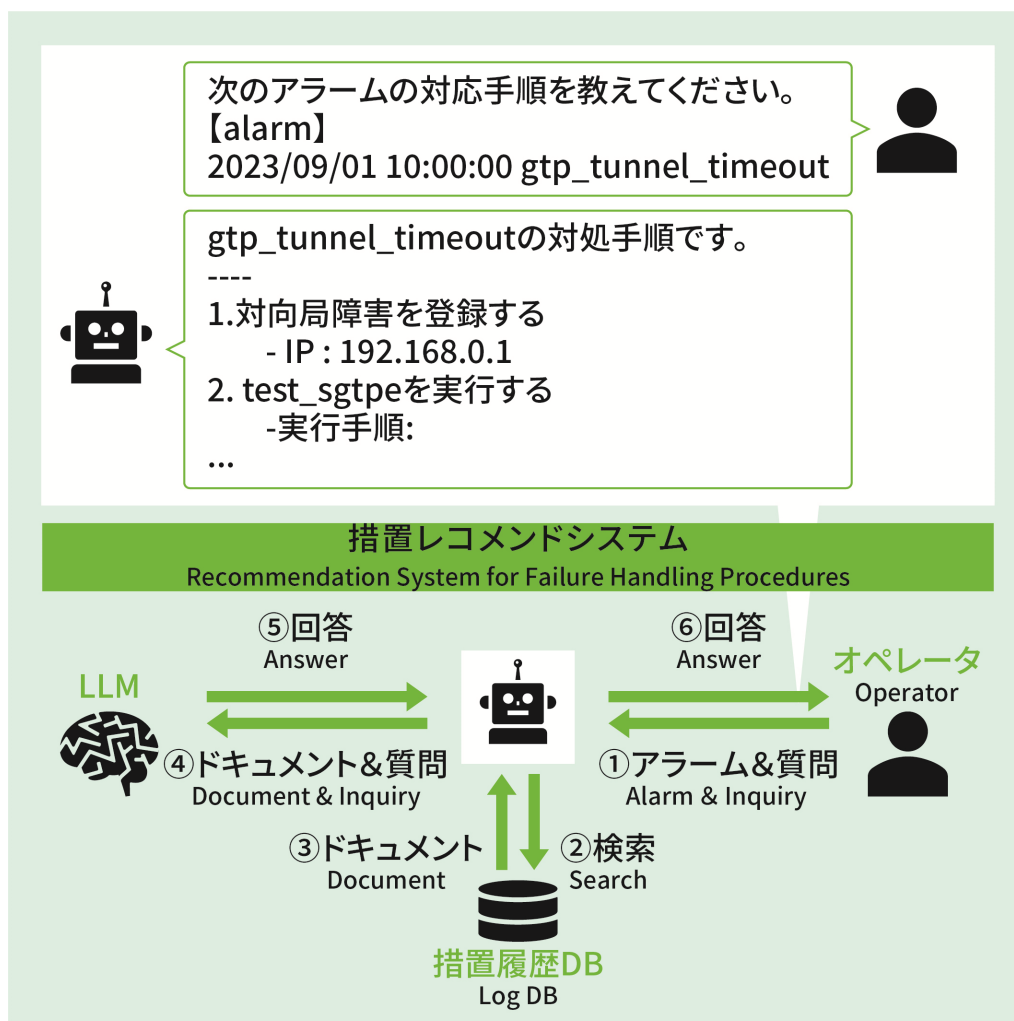## NW x Generative AI: Recommendation system for failure handling procedures

Recommendation of appropriate failure handling procedures based on past failure handling log using LLM

#Productivity Improvement #Business Resilience

次のアラームの対応手順を教えてください。
【alarm】
2023/09/01 10:00:00 gtp_tunnel_timeout

gtp_tunnel_timeoutの対処手順です。

1.対向局障害を登録する
    - IP : 192.168.0.1
2. test_sgtpeを実行する
    -実行手順:
...

措置レコメンドシステム
Recommendation System for Failure Handling Procedures

⑤回答 Answer
LLM
④ドキュメント&質問 Document & Inquiry
③ドキュメント Document
②検索 Search
①アラーム&質問 Alarm & Inquiry
⑥回答 Answer
オペレータ Operator

措置履歴DB
Log DB

///Technical Issue

Operators implement fault responses using to the historical failure handling log, but finding and interpreting it requires advanced skills.

///Research Goal

This technology uses a large language model (LLM) to improve troubleshooting when an atypical failure occurs.

---Technology

Through its own re-ranking RAG (Retrieval-Augmented Generation) technology and system instructions, it reduces false responses by integrating information from the past failure handling log DB into the LLM while excluding documents with low relevance.

---Applicable Business

In the information and communications industry, by using LLM for troubleshooting, we can reduce the time and human resources required for troubleshooting and contribute to the efficiency and sophistication of network operations. The results were provided in 2024, and a trial evaluation is being conducted by NTT Group companies for network operations.

---Novelty

(1) The RAG with a re-ranking function greatly improves the accuracy of search results.(2) Prompt design specialized for telecom operations enables more precise and practical response generation. These features make NTT's technology extremely useful in network operations.