IOWN INTEGRAL

NTT R&D FORUM 2024

RESEARCH

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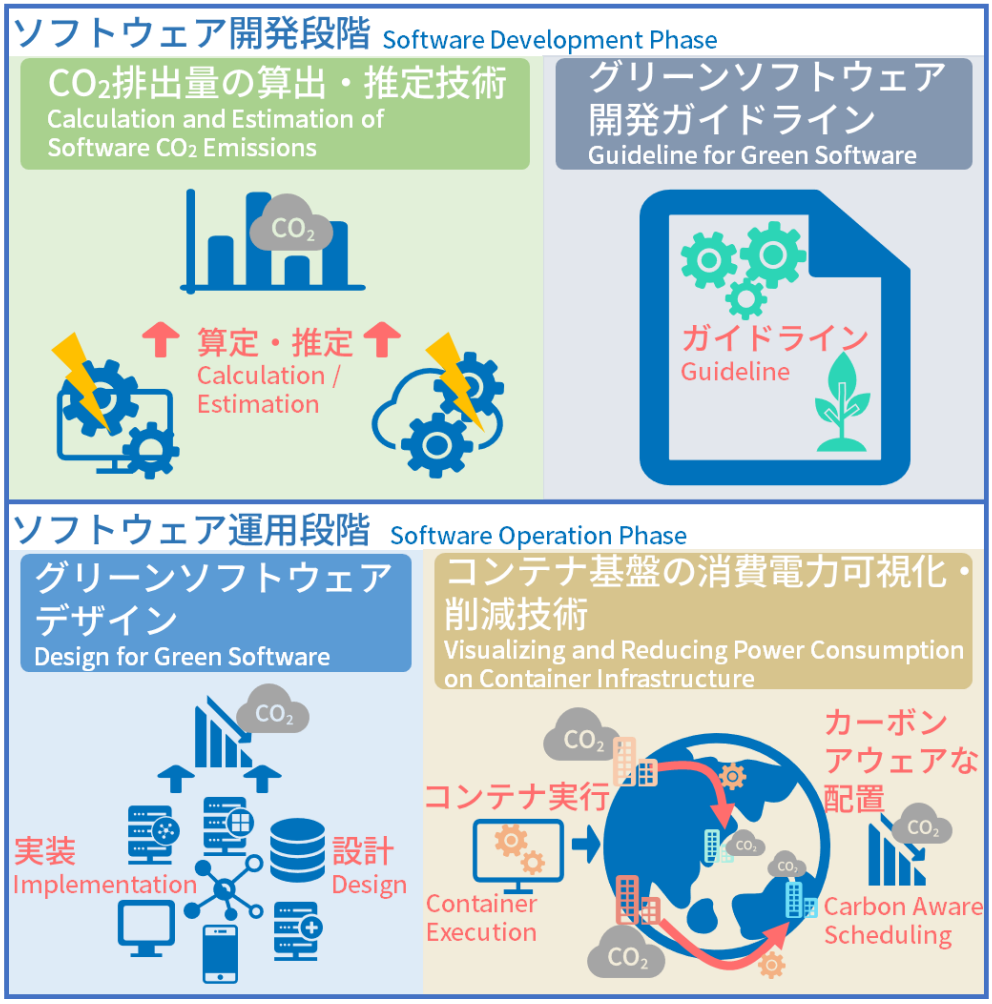
Green software technologies for software development and operation

Visualization and reduction of CO_2 emissions from software products based on standard rules

#Green Transformation



///Technical Issue

In the software field, standard calculation rules have not been established, so it is impossible to calculate CO_2 emissions efficiently and effectively based on rules.

///Research Goal

Achieving decarbonization of the software supply chain through green software technologies that make environmental impact reduction a business value.

---Technology

- Algorithm for tracing power consumption of ICT equipment used for software development in relation to development projects and active log of developers.
- Technology for selecting software execution sites /servers to reduce CO_2 emissions.

---Novelty

- Calculation of CO_2 emissions during software development based on the CFP guidelines by the Ministry of Economy, Trade and Industry.
- Real-time monitoring of CO_2 emissions during software execution based on the ISO "Software Carbon Intensity".

---Applicable Business

Applicable to the following use cases in the IT industry (around 2027).

- "Green procurement of software products" in which estimated and actual CO_2 emissions during software development are presented to procurers.
- "Green operation of software products" that reports actual CO_2 emissions from the use of software products to business owners.

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