

Study On Interface Modeling Of Remote Sensing Products' Cloud Service Platform Based On Multi-satellite Networking

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Abstract: The RS (remote sensing) products' cloud service platform interface based on multi-satellite network is composed of three heterogeneous systems including the data networking system, product generation system and product service system. Due to a large number of inter-operation, the task coordination is complicated. Therefore, the modeling of system interface which using service-oriented architecture is the key to ensure quality of product service. First, through analysis of customer requirements to identify the service mode of platform and decomposition the service procedure, confirm the location of interface of interactive service procedure between different systems. Based on above theory, according to the loose coupled principle between interface and function, the decomposition of input, operation and output interfaces could be achieved. Furthermore, using the UML sequence diagram to constrain the application scenes, request response parameter, parameter legality, and time sequence condition and communication performance of interfaces. Finally, according to a real example of remote sensing online generation service to define the interface method and message parameter of XML format, agree the transmission interface protocol. Based on VPN technique, the secure transmission of product is realized and interface is called via system interface UDDI (universal description, discovery and integration). The service of RS products online generation is improved and the transform from RS data service to RS product service is achieved.

Keywords: Service-oriented architecture, RS Products, Cloud Service Platform,

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