



Financial Case Study

Broadcast Services have Complex Contracts

A key part of the financial work of any corporation is paying suppliers for goods and services used in the operation of the company. As the world-leading provider of digital television entertainment services, DirecTV works especially closely with its many suppliers who provide the content streams that DirecTV broadcasts to its customers. DirecTV depends on its suppliers for content delivery and the suppliers depend on DirecTV's accurate payments for their services.

Each supplier develops a contract with DirecTV that defines how the supplier will be paid for the content it delivers. These contracts can be complex with special incentives for different amounts of content delivery, market penetration or different kinds of customers such as commercial vs. residential. Payments must be made to each supplier based on the specific logic of their contract. Generating a payment to a supplier requires aggregating large amounts of customer information in specific ways as defined by the payment contract. In addition specialized calculations must be applied to the aggregated customer data again as defined by the contract. After calculating payment information from the aggregated data, this information must be organized and transferred into DirecTV's accounting system. This payment generation process is complex and must be repeated monthly or weekly for hundreds of different contracts.

Automate Payment Calculation with Contract Knowledge

KSD engineers working with DirecTV financial analysts developed a solution to manage this difficult financial operation. The heart of the supplier payment system is a Knowledge System that automatically generates all of the data aggregation and calculation commands necessary to implement the logic for each payment contract. To generate the proper aggregation and calculation commands requires that the payment system "understand" the logic of each contract. To implement this contract logic understanding, an innovative user interface was developed. Working with

DirecTV contract analysts a graphical user interface was developed that allows the analysts to draw diagrams to capture the logic of the contract. The logic diagramming language includes a palette of blocks that can be connected in a variety of ways to represent standard types of payment logic specified in supplier payment contracts. Once a payment diagram is entered and approved, the payment system can automatically interpret the diagram and generate all data aggregation and calculation commands necessary to implement the payment contract logic.



Client: DirecTV

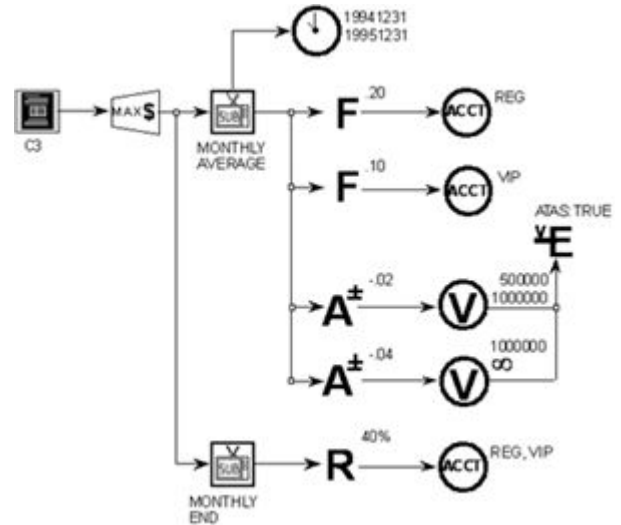
Challenge: Develop a system to accurately generate payments to multiple suppliers based on complex contract logic written with each supplier.

Solution: Develop a Knowledge System that provides an intuitive graphical language to allow contract analysts to quickly define payment contract logic. Use the analyst built contract diagrams to automatically generate commands to the financial systems that accurately calculate the payments due on each payment contract.

Results: The payment system has been in use for over 14 years. It has scaled with DirecTV from 50,000 to over 17 million subscribers. The payment system now processes over 15 billion transactions every month.

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The DirecTV payment system allows their financial analysts to work at a high-level defining the contract logic. Since the conversion from the payment diagram into the appropriate commands is all automated the process to go from a signed contract to being prepared to pay the supplier is fast. Occasionally new types of payment logic are proposed with suppliers, in this case new payment logic blocks are defined and verified in the system, and then the new contract logic is implemented using the new block type in its payment diagram. This speed and flexibility in their supplier payment process helps DirecTV remain world-leaders in digital television services.



Knowledge System has Scaled with Business Growth

An important feature of this system has been its scalability; it has been able to keep pace with DirecTV's impressive growth. The system started processing supplier payments in 1994 with a customer base of approximately 50,000 subscribers. Today the supplier payment system implements over 15 billion transactions a month over a customer base of over 17 million subscribers.