

Project/Contract Name: Incentive Compensation Management (ICM) Application Development Support Services

Customer Name: EchoStar Communications Corporation

Project Description: DSG was approached by Echostar in 1996 to design and implement a state of the art Incentive Compensation Management (ICM) application to pay commissions to its dealers. This evolved into a ten-year relationship. This is a web portal that the dealers can use to get the details of the incentive payments received from Echostar, research the payments on a specific receiver or a subscriber across multiple promotions, or submit a trouble ticket/claim for any missing payments. The application interfaces with the Oracle ERP Order Management Module so that the dealers can place an order, or get details on the shipments and the order status.

Analysis, Requirements Gathering: DSG involved its senior members and performed Business Analysis. DSG successfully completed detailed analysis phase that included requirement gathering, discussions with users, managers and executives, detailed analysis, and documenting process flows. Prepared process flow charts for the key business processes. Prepared use case documents. These documents were reviewed by the IT managers and business unit managers. DSG staff met with senior executives to get strategic direction of the organization. Our technical resources then worked with our business analysts and came up with Technical design. Our team successfully completed this project and this has been in production since 1997.

Following is a brief listing of accomplishments and tasks completed for this particular DSG client:

- DSG built a state-of-the art Incentive Compensation Management (ICM) starting from the Requirement analysis, design and development phases. During the Analysis phase DSG's business analysts worked with the users in gathering the requirements in preparing high level FRDs (Functional Requirement Documents) which were then converted into Technical Design documents.
- Business analysts from DSG developed business requirements, use case scenarios, conducting business process modeling, creating FRDs, and planning acceptance testing.
- Prepared process flow diagrams and use case documents.
- Met with senior executives to understand the needs of the business as a whole and its strategic direction for the for incentive compensations. These are incorporated in the FRDs to meet the goals of the organization.
- Discussed with the senior IT managers to prioritize the requirements.
- Identified critical success factors for the proposed application.
- Required interfaces of the application with both internal and external applications are analyzed and documented.
- DSG business analysts worked as with IT programmers, managers, and Quality Assurance teams to ensure the requirements are met by the system.
- Followed EchoStar IT protocol (ERUP – Echostar Rational Unified Process) throughout the analysis and system development phase.
- Identified and documented the business rules, exceptions, open issues, alternate process flows, and pros and cons.
- As liaison between business and IT departments, a DSG Business Analyst gathered and documented business requirements and translated them into functional system design specifications.

Data Modeling, Database Design, Programming: DSG's Database Architect (one of the Founders of DSG) prepared a logical data model using the requirement analysis document, which later was converted in to physical database design. DSG used Oracle Case tools (heavily used by Oracle community those days) in coming up with a solid database design. DSG also employed experienced Oracle programmers in the implementation that involved development of Oracle Forms and PL/SQL programming. The Sales Compensation system to-date pays hundreds of millions of dollars in sales compensation to its dealers.

- Prepared technical specifications based on the Functional Requirement Documents.
- Prepared data model to represent data requirements of the application completely and accurately.
- Designed the database (Oracle) both logical and physical to ensure all the data elements are captured, minimizing data redundancy and normalization. Identified data objects and their relationships.
- Identified key constraints (Primary key and Foreign key), mandatory and optional columns, default values and column domains.
- Prepared ERD (Entity Relationship Diagrams) with entities and relationships using Oracle Case Tools. Added Key attributes and non-key attributes to the diagram.
- Validated the data model through normalization.
- From the logical Database model, created SQL scripts with proper storage parameters considering the data volumes (both initial and growth), DML operations, and table spaces.
- Made sure that the design is very flexible to accommodate future business rules.
- Prepared process specifications including the inputs, outputs, and business rules. Made process flows using the MS Visio.
- Processes are developed using PL/SQL, database triggers, database packages and procedures (stored) and C programs. Global procedures are developed to use across several modules of the application and eliminated the duplicate programming for the same logic, and ease of maintenance. Structured programming is followed. These processes and their performance are very critical for the organization to meet the contractual obligations of Echostar to make the payments to hundreds of dealers across the nation.
- For the ease of trouble shooting and research, log files are generated.
- Designed and developed interfaces utilizing APIs (Application Programming Interface) and Open Interfaces for Oracle ERP applications and to other custom applications of Echostar.
- Code reviews are performed to ensure that the programs are developed for the best performance, high transaction through put and consistency. SQL programs are optimized utilizing Explain plan, SQL trace and tkprof utility.
- Processes are made available only to users with appropriate permissions based on roles and responsibilities. Audit trails and controls are enabled.
- Screen layouts, data sources, and pages flows are designed. Identified the required data manipulative (DML) operations (insert, update and deletes) and user access controls based on user responsibilities.
- GUI Screens are developed using Oracle Forms.

Internet/Intranet Application Development: Created multiple web applications (intranet and internet) using C#/ASP.Net, Java, J2EE/Oracle technologies.

- Developed web forms including web user controls and custom controls
- Created business components
- Developed standalone console applications than run as batch programs
- Provided production support to web applications
- .Net, with Oracle database backend

The ICM application is a very strategic and critical function to the success of Echostar's organization. DSG performed complete and accurate analysis and developed a system which is flexible, business rules driven, but yet very user friendly to its user community. Before the launch of ICM, Echostar had a non-existent subscriber base and was at the beginning stages of launching their, now famous, DISH network services. Currently, ICM is helping to support Echostar's vast and rapid growth by supporting over 12 million subscribers and hundreds of thousand's DISH Network dealers throughout the US. ICM's flexibility gave Echostar a competitive edge over its competitors in the marketplace.

Batch/nightly processes are critical to meet the process deadlines, payment cut off times and at the same time able to meet the legal obligations and Service Level Agreements (SLA). DSG proactively monitored the system performance and made the necessary process tuning to make sure these processes are completed in the allocated time frame to satisfy the needs of growing organization.

Echostar has continued to use the ICM without any significant process re-engineering and major upgrades, resulting in substantial cost savings to the organization over the last decade.

Contract Duration: January 1996 – April 2007

Contract Value: \$2,500,000