IBM

Data Replication Implementation Design Program

Our Data Replication Implementation Design Program focuses not only on data replication, but also on the broader implications of implementing replication in your environment, as well as other tasks that are directly affected. These can include application modification, schema modification, changes in administrative procedures, network bandwidth requirements and changes in the general database environment.

About the program

The Data Replication Implementation Design Program is the second part of a two-stage research and planning process. The first stage, the Data Replication Requirements Analysis Program, defines replication requirements — such as high availability, workload partitioning or data dissemination — then determines how IBM Informix data replication can best address those requirements, from both a business and technical perspective.

Implementing replication products in a production environment can complicate your overall system architecture — making it especially important to ensure that the design and implementation strategy you use for replication is as comprehensive as possible. IBM Data Management Professional Services is an ideal resource for this purpose.

IBM Informix® Dynamic Server™ supports a number of replication schemes, such as high availability, workload partitioning and data dissemination. Successful implementation and administration of these replication schemes can be challenging. You must consider a variety of issues such as monitoring synchronization, resynchronization, conflict resolution, serial keys, failover and latency.

e business software

Once the replication requirements are defined, the Data Replication Implementation Design Program is used to determine the requirements for implementing and maintaining data replication into all phases of a project lifecycle. IBM Data Management Professional Services consultants have the breadth and depth of experience with IBM database and data replication technology necessary to ensure that your project is in the hands of subject matter experts.

During the course of the program, consultants work with your staff to develop a replication model, perform setup and control, perform application and database modifications, develop test plans, implement capacity planning and deliver a comprehensive project plan.

Replication model development

The first major task in design implementation is the development of a replication model that takes into account the reasons your organization needs to replicate data. These can include capacity relief,

data dissemination, data consolidation, workload partitioning, high availability and workflow. Depending upon your architecture and requirements, consultants may develop a hybrid model that meets your unique needs.

Once the design is complete, the model is documented and delivered for your approval. At this point, the consultants provide a high-level outline of all the replicates required to support the model.

Setup and control

Setup and control deal with tasks such as product installation and configuration, defining and creating required replicates and replicate groups, managing replicate states, developing conflict resolution rules and adding new servers. Consultants will design any programs or scripts that are required, design conflict-resolution stored procedures, map out setup procedures and integrate the development and testing into the overall project plan.

Application and database modification

Your replication model may require modifications to applications, schemas and your general database environment. The degree of difficulty for implementing these changes can vary widely, depending on whether the applications in question are completed, currently in development or from a third party. Our consultants help determine what changes need to be made and who will be responsible for making them, as well as the overall plan for how and when the changes will be made.

Develop test plans

No matter what replication strategy is used, it is critical to conduct thorough testing to validate the replication strategy from both functional and performance perspectives.
Our consultants perform this testing, simulating the production environments as closely as possible so test results are valid for capacity planning purposes as well.

Capacity planning

When implementing any replication system, you must consider the resources required to conduct propagation. These resources include

CPU, disk and network bandwidth. There are many variables that affect capacity, including the replication model itself, transaction rates, percentage of transactions that are not replicated, number of tables participating in the replication, sequential versus non-sequential replicates, number of participants and size of transactions. Our consultants plan the tasks associated with conducting required testing.

Program deliverables

Once setup and control, application and database modifications, test plan development and capacity planning are complete, consultants develop and present a comprehensive implementation project plan that includes tasks, responsible parties and time lines.

The plan ensures that all requirements are addressed, and that the implementation and long-term administration tasks essential for successful data replication are incorporated into every phase of your data replication project. Consultants also deliver recommendations for staffing and training, as well as a proposal for additional consulting expertise from IBM Data Management Professional Services if needed.

For more information

To learn more about IBM Data Management Professional Services and the Data Replication Implementation Design Program, please contact your IBM marketing representative or an IBM Business Partner, or call 1 800 IBM-CALL (within the U.S.).

Also, visit our Web site at:
ibm.com/software/data/informix