

# DISASTER RECOVERY REPLICATION OF PROGRESS® Databases

## INTRODUCTION

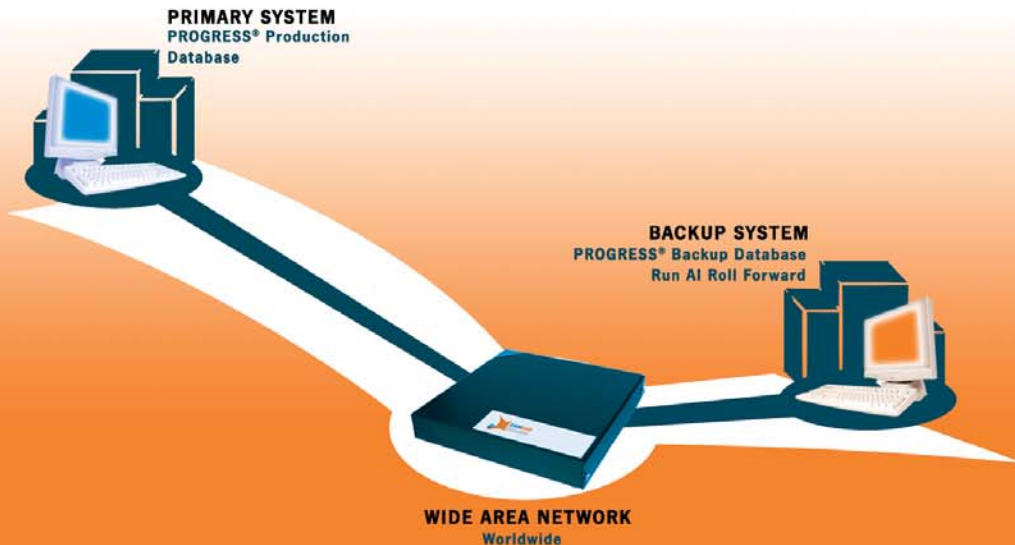
Disaster Recovery planning is a critical component of any Business Plan and encompasses many facets to ensure continuity of the business. A disaster recovery plan should consider the need to recover from any of the following:

- Environmental disasters
- Organized and/or deliberate disruptions
- Loss of utilities and services
- Equipment or systems failures
- Serious information systems incidents

If your organization depends on its PROGRESS® database and systems to run your business, database replication is an essential part of disaster recovery and business continuity in the event of a database server failure or database corruption incident. In addition to database replication, you may wish to consider investigating server “hot spare” failover to database replication. Call to discuss further details.

## HOW IT WORKS

PROGRESS® database replication to a backup system maintains a closely synchronized copy of your critical PROGRESS® application data. As database transactions occur on the primary database server, they are accumulated and updated within minutes on the backup database server, by utilizing the PROGRESS® After Imaging (AI) facility, in conjunction with our specialized Unix/Linux scripts, to keep track of all database transactions and update the backup system on a regular basis (user definable to meet your business needs).



## BENEFITS OF PROGRESS® DATABASE REPLICATION

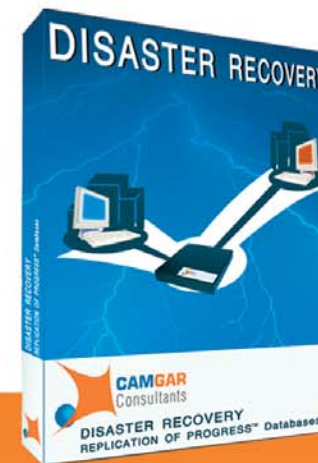
The primary benefit of database replication is in the event of a critical hardware failure or database corruption on your primary database server, you will have a ‘good’ copy of your data, thus minimizing potential data loss. Should you also set up for server “hot spare” failover, you would be able to switch over to the backup server in minutes (Note: Actual time to full operation on backup server is dependent on user needs. Call to discuss specifics of your particular requirements.)

Other benefits of replication are:

- Ability to use the backup database server for reporting functions (Progress® read-only mode), reducing the processing load on the primary database server, freeing it to deal with real income generating transactions, faster and more efficiently
- Ability to manage Operating System or Progress® version upgrades efficiently without the need to discontinue processing. (Perform upgrades on backup server, test, re-synchronize; then depending on your level of server backup, re-designate backup server as primary server, update original primary server, re-designate original primary server as backup server, re-synchronize, re-initiate replication)

## WHO SHOULD USE PROGRESS® DATABASE REPLICATION

- Any organization that depends on their PROGRESS® database to run their organization
- Any organization where regulatory requirements (e.g. Sarbanes Oxley) dictate rules for database backup
- Any organization that cannot afford days of system downtime to repair server hardware or data



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SYSTEM REQUIREMENTS

# DISASTER RECOVERY

## REQUIREMENTS

### HARDWARE/OPERATING SYSTEMS

- Two computer systems running Unix or Linux
  - As the routines are mostly Unix shell scripts and standard Progress® functionality, the routines should work on almost all flavors of Unix
- Network connection between the two computers
  - Systems can be in the same building, different buildings, or different cities
- Database directories on both systems have the same structure
- Ability in Unix to:
  - Copy Unix files between the two systems
  - Run commands on the Backup system from the Primary system using rsh or rcmd commands
  - Email to people from the Unix system to an Internet email address
- Sufficient disk space to maintain:
  - Progress® After Image (AI) files
  - AI transaction files that get copied to Backup System and saved
  - Progress® database Backup files (*probkup*)

### PROGRESS®

- Progress® Workgroup RDBMS or Progress® Enterprise RDBMS available on each system
- Database(s) to be replicated must be set up with multi-extents
- Does NOT require any other Progress® tools such as Progress Fathom®
- Works on all versions of Progress® (6.x, 7.x, 8.x, 9.x)
  - *Has not been tested on OpenEdge® 10.x*

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## SUMMARY OF THE REPLICATION PROCESS

- After Imaging (AI) is enabled on the primary database server
- Unix/Linux scripts initiated by cron on the primary server to regularly:
  - At designated time, mark the current AI extent as "full"
  - All full AI extents since last iteration compressed and copied to the backup database server
- Unix/Linux scripts are initiated by cron on the backup server to regularly:
  - Uncompress all unapplied AI extents from the primary server
  - Apply AI extents to the backup database server, bringing backup database to a synchronized state

NOTE: timing of the execution of the Unix/Linux scripts on both servers is customizable to meet your specific needs



Over 15 years of general programming support using the Progress® 4/GL language and database for clients in wholesale distribution, trucking, manufacturing, chemical, and other industries

Over 10 years experience supporting clients running WDS-II ranging in size from \$5 million to over \$1 billion in sales

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