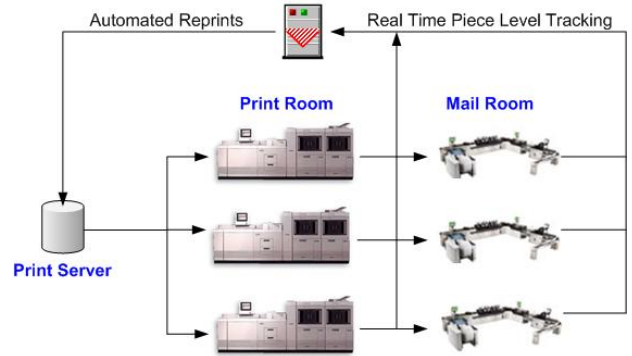## Discovery Enterprise

Discovery Enterprise is the data collection and reporting engine of the Discovery software suite. Enterprise allows vendor independent audit control of all data collection points from digital imaging through all production output processes. Discovery Enterprise includes the following competitive advantages:

- Real Time Page Level Tracking
- Related Page and Pack Level Integrity Control
- Multiple Integrity Inspections including Print Quality, Barcode Grading, IMB Inspection and Base Stock Verification
- Duplicate Detection across multiple machines and even multiple sites
- Web Browser based Intranet control
- Data Redundancy via Cluster Based Server Replication
- Minute by Minute Shop Floor data gathering for in-house Analytic Reporting
- Automated Reprint Processing

Web Browser Based Intranet Control and Reporting

Discovery Enterprise is controlled via it's independent http front end. This allows any PC on the network to access information on any job or equipment to which their user have been given access.

The Intranet system has been designed for fast access to all site information presented in a simple and direct point and click format.

The Discovery Enterprise Intranet includes the following functionality:

- Dashboard view of all active jobs and equipment (shown above)
- Quick drill down access from job overview to page level information
- Instant status of all attached equipment including: Operator, Active Job and present speed
- User level access control to all components and controls
- Access to Job / Day / Equipment reports

Page / Pack Level Tracking

Discovery Enterprise maintains control of all documents using a mixed page and package level logic. This enables integrity checking of not only the presence of each page in a package but the actual quality of each of these pages through each of their production processes.

For example, the laser print quality check of page 3 of a customers statement could fail when checked with a colour inspection camera while being printed. This integrity failure is marked in the database but the production continues to print (unless multiple sequential errors occur). This same statement is then checked on the input of a mailer as it is being collated. It is noted that this pack has failed a previous integrity check but the system still continues it's production. Once this statement exits the mailer, Enterprise diverts this package and shows the pack as diverted due to a print integrity check failure on page 1.

A complete audit trail for every pack is available through the Enterprise Intranet as shown to the right.
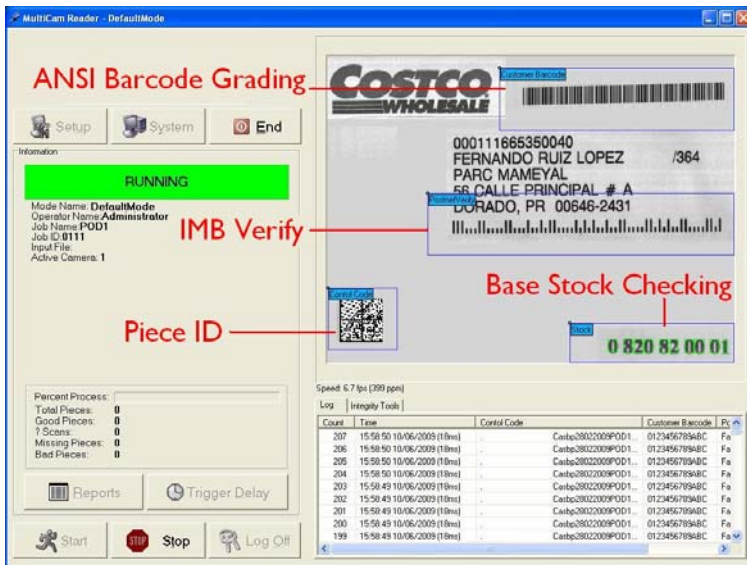
Multiple Integrity Inspections (Parent—Child Logic)

Standard ADF systems simply identify the 'presence' of each element of a production job. Because Enterprise is based on the technology of the rest of the Integrity modules of the Discovery suite, it can maintain a much more in-depth quality control of the document cycle. For example, once the piece and page has been identified (referred to as the Parent), many other quality inspection can be made at the same time.

As shown below, an ISO / ANSI barcode grading, IMB verification and base stock check can be performed as well. We refer to each of the secondary integrity checks as child reads. In the event that any child reads fail, that particular page will be marked in the Enterprise server as failed. The client can be configured to stop the actual production equipment once a certain percent of child failures occur. Once this piece reaches a point of the production process which contains a divert facility, it will be removed. This process ensures maximum quality control without compromising production throughput.

Child Inspection Tools include the following:
- Print Quality Inspection (PQ)
- Barcode Grading
- Base Stock Verification
- IMB Verification
- Scratch-Off Checking
- Inkjet Nozzle checking
- CMYK Colour Registration

Condensed Job View

Discovery Enterprise uses an enhanced pack condensing system which groups packages with similar processing states. By examining this Condensed View, it is immediately obvious which pieces need manual attention. This view optimises the standard way of either sifting through thousands of packages with the same status or drilling down through a colour coded grid to find the name / piece ID of suspect pieces.

The condensed view also contains the ability to search the job for a particular piece by name, address, account number or virtually any other data supplied on the original file.

Additionally, there is a 'Recover Function' which is available to production supervisors to remove large batches of processed work so it can be reprocessed without being flagged as a duplicate.

The Hide buttons on the top right are used to further filter unnecessary items to simplify operator troubleshooting.

The production supervisors or quality control personnel also have access to the check or x icons on the right of the pieces. These icons will allow manual correction or manual removal of production pieces. Manual Removal and Manual Correction can also be done via readers attached to Quality Control stations.

Equipment View

Each attached piece of equipment can be queried for Speed, Status, Operator and Current Job.

Marathon 1
8,546 Pieces / Hour (last piece less than 1 minute ago)
General - DRG-22340015-FG1
Status: **Running**   Operator: JSmith

Data Redundancy via Replication Clustering

Though most production environments operate 24/7, IT departments generally work 9 to 5. This creates a significant problem when the production environment relies on IT related components. As a result, Lake Image has designed Discovery Enterprise to operate in complete redundancy. Not only does each server come with a redundant set of drives (using a RAID array) but additional servers can be added to the system to provide complete backup in the event an entire server fails.

AUTO-FAILOVER HEARTBEAT

When more than one server is running in a cluster, they follow a replication cycle. At a preset interval, each server contacts each other and ensures they share the same data by maintaining a local database of all changes since the last replication cycle.

In the event that a client losses connection with it's primary server, the shift supervisor has the ability to change to the on-site backup server. This ensures that standard production can continue without having to wait for IT personnel to fix the problem.

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