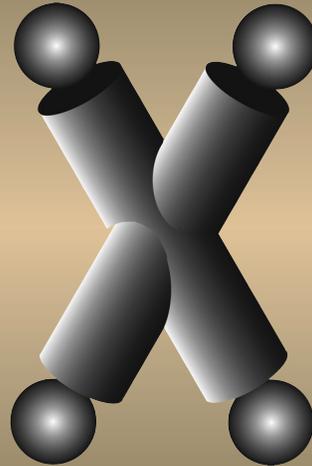


DiscTag Enabled Workflow



Unlock your plant's potential,
Reduce errors, save money,
automatic content verification,
job audit trails, and more



I N F O R M A T I O N . . . U N L O C K E D

Since 1988, DCA has always been called upon as the innovation leader when the industry has needed to make leaps forward. Now in its twentieth year, DCA is continuing with solutions both for manufacturing new formats and achieving ever greater efficiency with existing formats.

The **DiscTag Enabled Workflow** forms the heartbeat of DCA's vision for efficient plant management and is composed of several key elements working together:

- an embedded tag in each image/disc,
- a linked, matching HCRC value for verifying the image/disc,
- linked XML metadata describing or reporting the operations performed on the image/disc,
- job control files (JCF) files to move images around between processes,
- ERP system integration to the XML metadata,
- and format analysis to spot and automatically correct errors before parts are made.

These elements provide an extremely powerful and flexible method of easily and automatically tracking and verifying each disc/image as it moves throughout the media manufacturing process. Working together, the DiscTag Enabled Workflow elements reduce errors and lower costs for manufacturing pre-recorded media.

The DiscTag components are available either in products from DCA and DiscTag partners, or they can be licensed as a software development kit (SDK) for easy integration for all industry participants.

DiscTag Marker

The actual marker is a unique identification mark for each layer within a title bound together with a Title GUID. This marker resides on each optical disc layer. The tag is assigned as early as authoring, and remains the same throughout the replication process.

The DiscTag marker is the key to retrieving XML and HCRC information from the metadata store (a separate partition on your server). Its' contents include:

- Unique Title GUID (globally unique identifier) for each title and each version of a title
- Unique Layer GUID
- Encoder ID
- Cut/Sequence #
- Date/Time Stamp

DiscTag Enabled products are available from multiple vendors...

- * DCA
- * Singulus Mastering
- * Philips
- * AudioDev
- * DaTARIUS
- * Pulstec
- * Sonic Solutions

...to enhance & automate a variety of functions, including:

- * Content Creation/Authoring
- * DDP/CMF Loading & Analysis
- * Glass Preparation
- * Format Mastering
- * Plating Operations
- * Replica Logical Verification
- * Physical Testing
- * Metadata Retrieval/Reporting
- * Automated Archival
- * Sync Between Metadata & ERP Software

HCRC ‘Gold Reference’ Values

Hierarchical CRC values (HCRC) provide a CRC for each sector of a disc image and are calculated as early as the authoring stage. Its advantages include:

- HCRC reference values can be located automatically, eliminating the possibility of selecting the wrong reference source
- Verification is completed without the need for source media to be present, substantially reducing network bandwidth vs. bit-to-bit comparisons
- Mis-compare are reported by sector and/or radius location,
- Multiple errors are located and reported individually,
- Operators can verify portions of a replica, including single layers of a dual-layer disc, or a specific sector range,
- Ready for all formats, including all forms of Audio CD, all modes of CD-ROM, all DVD formats, HD DVD and Blu-ray,
- Can cover all copy protections, including Safedisc, Ripguard, CSS, CPPM or AAC3.

XML Metadata & Title History Reports

DiscTag XML metadata automatically creates title history reports containing customer, catalog, and job report information for the title, as well a link to each layer’s HCRC value. Each DiscTag enabled job process or application adds its’ report to the XML metadata for the title, providing a complete & automatic history of all steps performed in the manufacturing of a title.

Several types of applications can store their full or summary reports within the Metadata, including authoring, replication, loading, glass mastering, sputtering, inspection, replication, physical testing, and logical data verification. Downstream applications can additionally utilize the XML metadata to populate their user interfaces and perform logical content validation via HCRC.

Job Control Files

The ability to move images seamlessly between production processes is a key part of the DiscTag Enabled Workflow, and DCA accomplishes this with our Job Control File (JCF). This one file describes everything that is needed to setup the next production process so that little to no operator interaction is required to actually perform the process.

JCF isn’t limited to working with just DCA products, either. Interoperability with Singulus SIF/SRF files is available for maximum integration through a plant.

ERP System Integration

The ERPLinx module allows for both jobs and metadata information to move from the front-end order taking side of a plant to the manufacturing side. ERPLinx can automatically create JCF to start jobs, and in concert with Commander Scheduler, can instantly assign jobs to available resources, depending upon current load and job priority.

Customer information can be moved into the DiscTag metadata automatically, as well, allowing for prompt fulfillment without operator intervention.

Format Analysis

A completely overhauled analysis engine, available within DCA Viper or as part of the DiscTag SDK, can quickly spot and fix errors in a plant’s incoming images.

The format analysis engine contains over 1,000 rules to check and fix the DDP/CMF, image content, file system, copy protection and video system. All of this is performed with no slowdown to the standard Load/Transfer process in pre-mastering.

The DiscTag Enabled Workflow unlocks your plant's potential to solve the issues of budget & cost pressures, error reduction, job tracking and problem analysis by linking metadata, such as customer & catalog IDs, HCRCs for verification, and testing profiles to a unique DiscTag embedded on each layer of the replica.

Industry Use Examples:

Automatic Testing and Verification – Testers and verifiers can retrieve the DiscTag marker from a replica and retrieve metadata from the server to automatically populate the user interface and start testing and/or logical HCRC verification with no operator intervention.

Job Histories/Audit Trails – Plant personnel can use DCA's Commander Supervisor software to lookup job history reports using either the DiscTag from a replica or a host of other parameters, including Customer Name, Catalog ID, Date Range, Number of Errors and Last Job Status. These same history reports can be electronically transmitted to content owners to verify and certify disc manufacturing results. These results can be from first articles used to authorize mass production or from archives of the actual production results.

Automatic Layer Matching – It is not unheard of for a plant to receive a new version of a single layer within a title at the last minute, but when DiscTag is used from the beginning, all versions of a particular title have all layers uniquely identified and bound together in the DiscTag markers and metadata. This allows all downstream testing systems to automatically detect when the various layers that make up a given title do not, in fact, belong together.

Trend Analysis – Commander Trends automatically assimilates and displays parameters for each manufacturing process in a easy-to-read chart, sorted by LBRs, replication lines and format types. This allows for a plant to quickly come online with trend analysis with a minimal IT investment or infrastructure change.



Contact Us

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