

Gracenote Discover

Let your next favorite song find you.

Gracenote Discover™ makes it easy for music fans to find the next additions to their music libraries. Discover delivers highly effective artist, album, and song recommendations based on any “seed” artist, album or track that the consumer selects while browsing a music store catalog, or their own personal music collection.

THE WORLD’S MOST COMPREHENSIVE MUSIC RECOMMENDATION SOLUTION

The Only Global Music Recommendation Solution

Discover can be tailored to meet a music service provider’s needs in any combination of markets around the world by leveraging Gracenote’s award-winning music recognition technology and vast music information database. Unlike other solutions which can only produce valid recommendations for music released in a particular territory due to limited data coverage, Gracenote Discover can be deployed anywhere on the planet to deliver recommendations incorporating local content that hit the mark every time.

Superior Performance Via Multi-Step Recommendation Techniques

Most music recommendation systems utilize just a single approach to generate their results, which, due to the unique limitations of each technique, are not scalable with the rapidly growing digital media market or result in poor recommendation quality – and lost sales. Discover’s proprietary system for generating recommendations is capable of combining the three most powerful approaches, amplifying the strongest points, while compensating for the gaps, in each of these techniques:

- **Editorial** – Gracenote’s international team of music experts is continually categorizing artists, albums, and songs into over 1,600 micro-genres, as well as assigning other descriptive attributes such as eras, artist types, and regions. This method enables the Discover system to consistently identify music which shares similar inherent subjective qualities, best identified by a human expert, across global content catalogs.
- **DSP Analysis** – Automated and scalable computer-based analysis of the audio waveforms of individual songs using DSP (Digital Signal Processing) techniques can objectively determine musical characteristics such as tempo, timbre, rhythm, instrumentation, harmony, melody and structure of individual songs. Gracenote can integrate third-party DSP data as well as provide even broader coverage through its own database of DSP-derived song descriptors.
- **Music Community** – Gracenote’s community of millions of music fans, using popular Gracenote-enabled media players, provides insight into global music consumption patterns. Discover utilizes such exclusive data to create recommendations and can also integrate its customers’ own sales ranking data or even third-party collaborative filtering results to augment the recommendations provided by the Editorial and DSP Analysis modules.

As combined and optimized in Discover, these three approaches corroborate and supplement each other to provide more consistently accurate recommendations across all possible situations than any of the techniques can produce individually.

High Reliability / High-Performance

Gracenote Discover is deployed within the infrastructure of the music service provider or on-line store customer, minimizing any real-time reliance on an outside service. Additionally, Discover has been architected from the ground up to deliver results extremely efficiently, reducing the delays produced by excessive real-time calculations.

A “White-Box” Solution Puts Control in the Customer’s Hands

Gracenote proprietary data is combined with the customer’s catalog data and other input to create customer-specific results producing tunable, targeted recommendations for their own consumer end-users. The customer may integrate their own proprietary user data (e.g., purchase history, play popularity, etc.) to help power recommendations. Additional controls available to the customer include the ability to:

- Optimize recommendations to match regional catalogs and preferences - by utilizing Gracenote’s regional popularity statistics
- Control which similarity criteria are given the most importance in recommendation calculations
- Prioritize specific content to surface catalog items for higher promotion, such as new releases, exclusive items, etc.
- Tailor the number, variety of recommendations presented to a consumer - providing the flexibility of either a limited or wide range of popularity and similarity levels.
- Integrate Gracenote Link™ to incorporate additional third-party content into the recommendation package to create a more compelling shopping experience.

Generates Recommendations Based on Any Seed Song, Album or Artist - Regardless of Source

Although Discover will only recommend merchandise available from the customer's available-for-sale catalog, Discover can use essentially any song, album or artist – regardless of its presence in the store catalog – as the starting point or “seed” for a recommendation. Additionally, any song, album or artist in the user's own personal digital music collection can be used as a recommendation starting point by leveraging the full Gracenote Media Database of more than 55 million tracks.

The First “360-Degree” Personalized Recommendations

Existing recommendation solutions are typically only aware of the consumer's recently listened to or purchased music from the provider's own store or service – when attempting to build a “personalized music taste profile” – often creating a distorted view of the consumer's preferences and resulting in poor recommendations. Discover, on the other hand, can integrate with Gracenote MusicIDTM to recognize and analyze all of the songs in, and played from, a consumer's music library, not just a small subset, enabling a more accurate view of the consumer's preferences and music tastes.

Enables Rapid Deployment of Recommendation Services

During initial set-up, the customer supplies Gracenote with their merchandise catalog data, along with parameters to establish global and regional sales priorities and other optional data. The depth of the Gracenote Media Database, and pre-linking to all industry standard identifiers, lets Gracenote quickly integrate and optimize the Discover service for each particular music store catalog.

Immediate Recommendations for Hot New Releases

Because of its multi-technique approach, Gracenote Discover can quickly incorporate and provide recommendations of, and based on, new releases. There is no requirement to build up a sales history database or perform detailed track-level editorial analysis before good-quality recommendations can be delivered.

Multi- Platform Solution

As a server-based product, Discover offers a solution that can be tailored to deliver recommendations in any type of deployment, including:

- On-Line Music Stores
- Music Web Sites
- Connected Home Media Servers
- Mobile Phones and Devices
- Streaming Music Services
- PC Applications
- Connected Portable Media Players

DEVELOPER TOOLS PROVIDED

Discover Server Software Development Kit (SDK):

- Discover Server SDK and documentation
- Object code library to support the Discover APIs
- Sample web server application with source code

SYSTEM REQUIREMENTS**Infrastructure Operating Environment**

- **Hardware**
 - Processor: Most 32-bit server-class systems
 - Memory: 1GB minimum, required for caching Discover results
 - Disk: 50-100GB minimum, required for caching Discover results
- **Operating Systems**
 - Unix-based systems
 - Linux-based systems (kernel v2.6 minimum)
 - Windows 2000 or XP Server
 - Mac OS X