TiVo Control API
Program Overview

February 11, 2014

About the TiVo Control API

The TiVo Control API enables third-party applications to control TiVo DVRs over an IP network. The Control API enables two-way control and command, and it provides assets to produce rich user interfaces to deploy in third-party controllers.

The TiVo Control API program offers:

- Two-way control API for third-party companies to control TiVo DVRs

- Background for developing client applications using the Trio Mind architecture

- A TiVo license agreement

- API license contact person: Jermain Anderson, janderson@tivo.com

Components

TiVo Control API components provide the following features and capabilities.

Component	Features and capabilities
Infrastructure/Authentication	TiVo DVRs require TiVo-issued certificates. Authenticates bodies that can't provide or don't have certificates.
Navigation/Control	Basic navigation via control codes equivalent to the keys on a TiVo remote control, such as channel-up, channel-down, info, guide, pause, play, record, select, Live TV, etc.
My Shows (TiVo Central)	Play recorded shows. Delete recorded shows. Get recording type, such as movie, series, song, web video, etc.
Channel Change	Tune to a channel by numerical value. Get the channel line-up (channel list, station ID, etc.). Query for what is on the tuners (including what is playing now). Get channel logo, e.g., NBC logo. Provides tuner conflict notification. Resolve tuner conflicts.
Channel Guide	Get guide data by channel. Scroll through grid guide. Get guide metadata, such as rating and movie year.

Requirements

Developers must have the following items to use the TiVo Control API.

- TiVo Control API license agreement Documentation (provided by TiVo via Mashery)
  - *TiVo Control API Reference*
  - *Trio Mind Developer's Guide for Remote Control*
  - *Test certification document*
- A TiVo DVR is required to test applications developed using the Control API
  - Supported devices: Series4 and Series5 (all models)
- A TiVo-issued SSL certificate to install on the third-party controller
  - A web certificate server is required on the third-party controller
  - A temporary web certificate is issued for development, testing, and certification after a license agreement has been signed
  - A production web certificate is issued after TiVo has certified the product based on the tests TiVo provides to the third party
  - To request a licensing agreement and a certificate, contact Jermain Anderson, janderson@tivo.com
- Familiarity with typical web applications
- Certification, obtained by passing TiVo-specified tests

TiVo Certification Process

- Third-party vendors must pass the Control API tests provided by TiVo.
  - This is a self-testing process.
  - Submit test results to Ryan Brown, rbrown@tivo.com

- Third-party vendors must provide two sets of the equipment they wish to have certified. This equipment will not be returned.
  - Please send the equipment to

    TiVo Inc.,

    2160 Gold Street

    San Jose, CA 95002
- TiVo will reply within 3 weeks with a pass/fail response

Limitations

TiVo Control API has the following limitations.

- Does not provide a mechanism to launch OTT (over-the-top) applications, such as Netflix or Pandora

- Does not provide a mechanism to get the cover art or metadata from OTT applications, such as cover art or artist credentials for OTT content currently playing

- Does not enable a OTT video stream or audio stream to be sent anywhere from the DVR

- Does not allow streaming of content to the third-party controller

DVR Access

- Local Trio Mind access is available through the TiVo Control API

- The remote mind is not directly accessible by a third-party controller

- TiVo certificates are only issued by the controller to the local DVR

- TiVo Control API certificates must be requested by the third-party which requires third-party credentials

- Third-party controllers must be able to discover the DVR IP address via one of the following mechanisms:

  o Bonjour
  o IP scan
  o SDDP (Control4)

- The authorized network port is 1413