



iTVFusion 5.7

2017

Online Training Syllabus

Minerva iTVFusion 2017 Training Classes

January 2017

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|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
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May 2017

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June 2017

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July 2017

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August 2017

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September 2017

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October 2017

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November 2017

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December 2017

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Minerva iTVFusion 2017 Online Class Schedule

| DAY: | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|----------------|--|--|--|--|
| MODULE: | 1. STB Overview | 3. Channels, Lineups, Regions & Packages | 4. Administration/ Troubleshooting | 5. Billing and Extraction |
| TIME: | 10:00 AM (CST) to 12:00 PM (CST) | 10:00 AM (CST) to 12:00 PM (CST) | 10:00 AM (CST) to 12:00 PM (CST) | 10:00 AM (CST) to 11:00 AM (CST) |
| MODULE: | | | | 6A. ACTools |
| TIME: | | | | 11:00 AM (CST) to 12:00 PM (CST) |
| BREAK: | 12:00 PM (CST) to 1:00 PM (CST) | 12:00 PM (CST) to 1:00 PM (CST) | 12:00 PM to 1:00 PM (CST) | 12:00 PM (CST) to 1:00 PM (CST) |
| MODULE: | 2. Customer Account Creation/ Management | 3. Channels, Lineups, Regions & Packages (continued) | 4. Administration/ Troubleshooting (continued) | 6B. Devices, Features & Multiscreen TV 7. Minerva Support |
| TIME: | 1:00 PM (CST) to 3:00 PM (CST) | 1:00 PM (CST) to 3:00 PM (CST) | 1:00 PM (CST) to 3:00 PM (CST) | 1:00 PM (CST) to 3:00 PM (CST) |

Overview

Minerva's training courses are designed to provide your team with the knowledge they need to deploy and use iTVFusion on a daily basis. Each course is only 1 to 4 hours long, and is delivered online by trained iTVFusion experts.

Convenient online delivery

The training courses cover all of the key areas required to implement iTVFusion.

Comprehensive set of modules

The training courses cover all of the key areas required to implement iTVFusion.

Experienced training staff

Each of the Minerva's trainers has had at least 3 years hands-on field experience with iTVFusion.

Course: STB Client Operations

Course Module 1

Module Duration - 2 Hours

Intended audience:

- Installers, Technicians
- CSRs
- Help desk
- Administration
- Headend Engineers
- Marketing, Sales, Management
- Anyone wanting an understanding of the STB operation as it relates to the customer



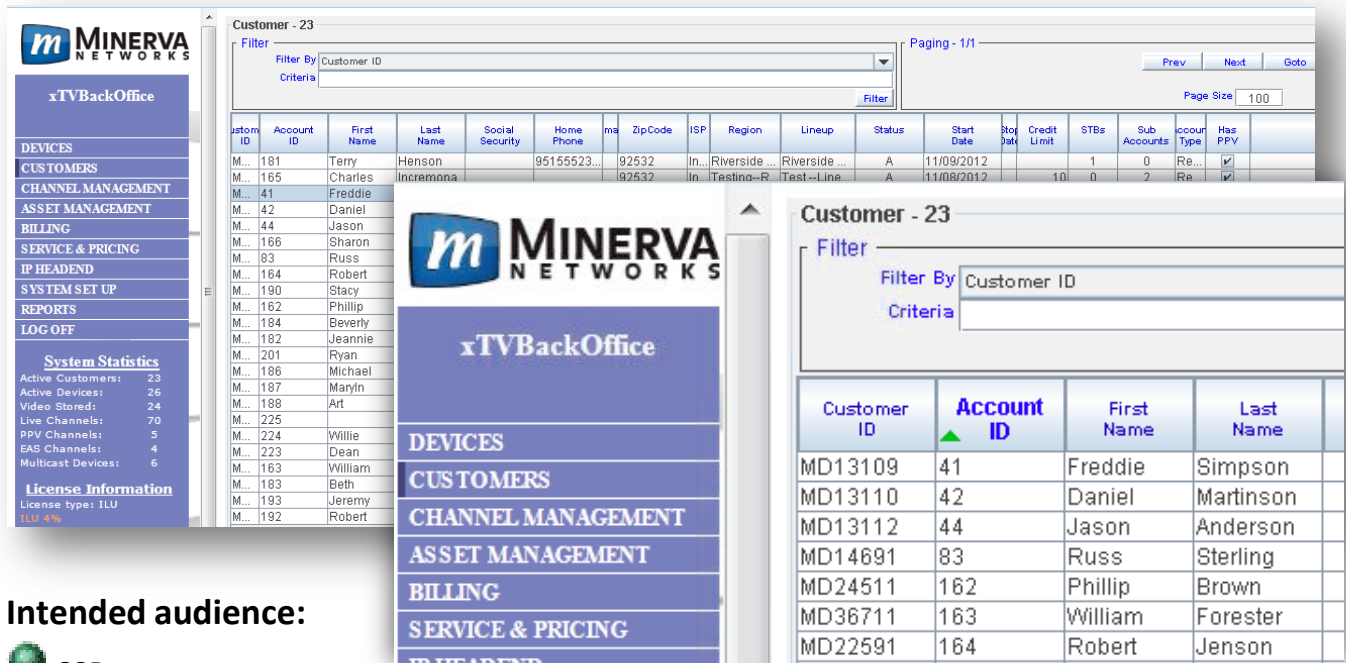
What you will learn in this module:

- Overview of Minerva iTV (Interactive Television) operation within the customer's home
- Navigation -- Menu Bar, Info Bar, navigating the Electronic Program Guide, including setting reminders and auto tunes. All, Subscribed, High Definition, Standard Definition. Purchasing Pay Per View programs and the Search function.
- Themes, languages, skins at the STB.
- Setting Parental Controls – movie ratings, TV ratings, language and violence ratings, overriding from the menu, unlock timeout, etc.
- Favorites and Channel Blocking – creating a Favorites list, editing and using a Favorites list, how can a customer set up blocking of channels from the home
- Sub-Accounts and Set Top Box Logins – requiring logins, creating account allowances, setting parental controls for individuals within the home
- URL Channels, Web access, Email at the Set Top Box
- Accessing the Library, Caller ID on the TV, System messages to the STB
- Widgets – Stocks, News, Sports, Twitter
- Cloud TV/ OTT TV - Picasa
- DVR Operation
- VOD Operation, ordering, etc.

Course: Customer Account Creation/ Management

Course Module 2





Module Duration - 2 Hours



The screenshot displays the Minerva Networks xTVBackOffice interface. On the left is a navigation menu with categories like DEVICES, CUSTOMERS, CHANNEL MANAGEMENT, ASSET MANAGEMENT, BILLING, SERVICE & PRICING, IP HEADEND, SYSTEM SET UP, REPORTS, and LOG OFF. Below the menu are 'System Statistics' and 'License Information'. The main area shows a 'Customer - 23' list with columns for Customer ID, Account ID, First Name, Last Name, Social Security, Home Phone, Email, ZipCode, ISP, Region, Lineup, Status, Start Date, Rotat, Credit Limit, STBs, Sub Accounts, Account Type, and Has PPV. A detailed view of a customer account is shown on the right, with a table listing customer details.

| Customer ID | Account ID | First Name | Last Name |
|-------------|------------|------------|-----------|
| MD13109 | 41 | Freddie | Simpson |
| MD13110 | 42 | Daniel | Martinson |
| MD13112 | 44 | Jason | Anderson |
| MD14691 | 83 | Russ | Sterling |
| MD24511 | 162 | Phillip | Brown |
| MD36711 | 163 | William | Forester |
| MD22591 | 164 | Robert | Jenson |

Intended audience:

-  CSRs
-  Provisioning, Help Desk
-  Admin, Engineering, Support
-  Anyone who manages customer provisioning

What you will learn in this module:

- Customers – how to add new customers as well as edit existing ones,
- Complete explanation of all customer fields, both required and unrequired
- Devices – auto-configuration using account numbers, phone number or Customer ID
- How to set up and change Parental Controls on behalf of the customer, retrieve forgotten PINs and customer password changes, set credit limits, enable or disable services, require PIN usage, logins, etc.
- How to block channels for the customer or discover if they have blocked channels and if so, which ones
- Managing Bandwidth – how to control the number of streams within a home
- Assigning Services – Service Packages, Channel Packages, PVR service, HD service, Caller ID service, Web service, E-Mail service, etc.
- Booting a set-top box
- Activating, deactivating & deleting customer accounts.

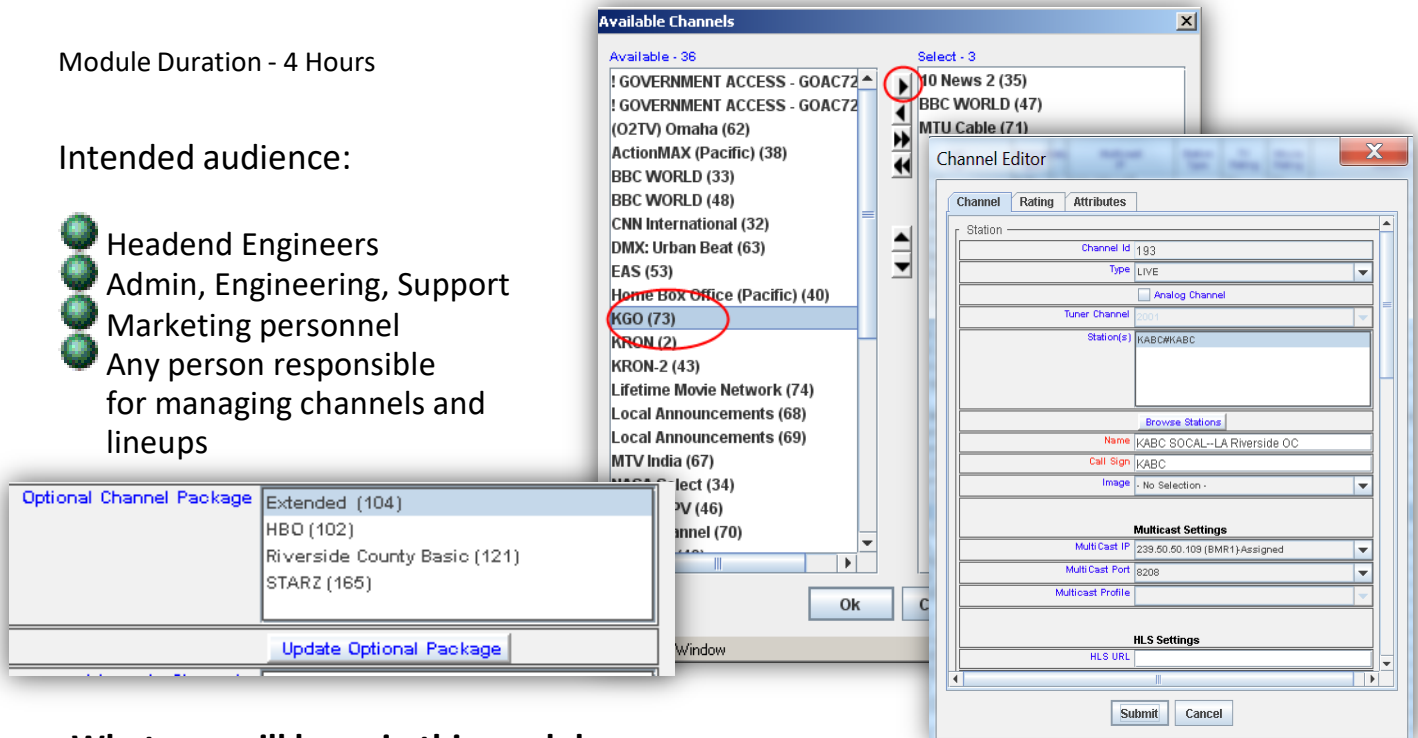
Course: Channels, Lineups, Regions & Packages

Course Module 3

Module Duration - 4 Hours

Intended audience:

- Headend Engineers
- Admin, Engineering, Support
- Marketing personnel
- Any person responsible for managing channels and lineups



What you will learn in this module:

- Channels – students learn how to create channels and associate channels with the TV Listing data service, the multicast IP addresses and port numbers. For Pay Per View channels, students learn how to create default pricing, configure Preview types and durations, allow for Impulse buying, etc.
- URL channels are explained as well as how to configure them
- Channel Lineups – students learn how to create channel lineups with independent channel numbering for different Service Areas. Also, you will learn how different channel lineups may be useful for particular communities, campuses, etc.
- Regions – you will learn how to create regions, and associate themes, channel lineups, languages, time zones and other properties.
- Channel Packages – students learn how to create channel packages, how to make channel packages which cross multiple regions or which are specific to a given region.
- Widget Packages and OTT Packages
- Service Packages – Students learn how Service Packages are combinations of channel packages and other features available to the customer, with a bundle price.
- Final review – Channels, Lineups, Regions and Packages

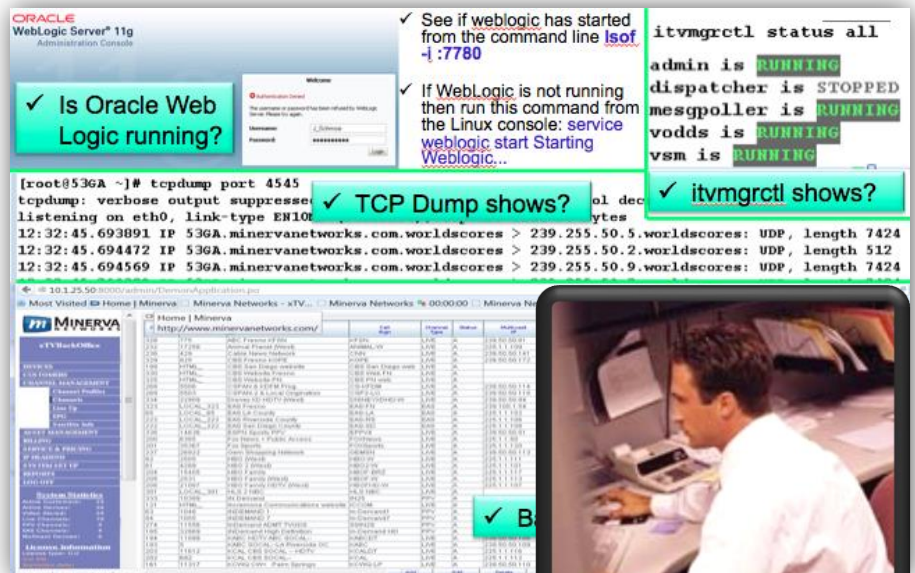
Course: System Administration/Troubleshooting

Course Module 4

Module Duration - 4 Hours

Intended audience:

- Headend Technicians
- Admin, Engineering, Support
- Network Operations personnel
- Individuals responsible for maintaining/ supporting the IPTV system.



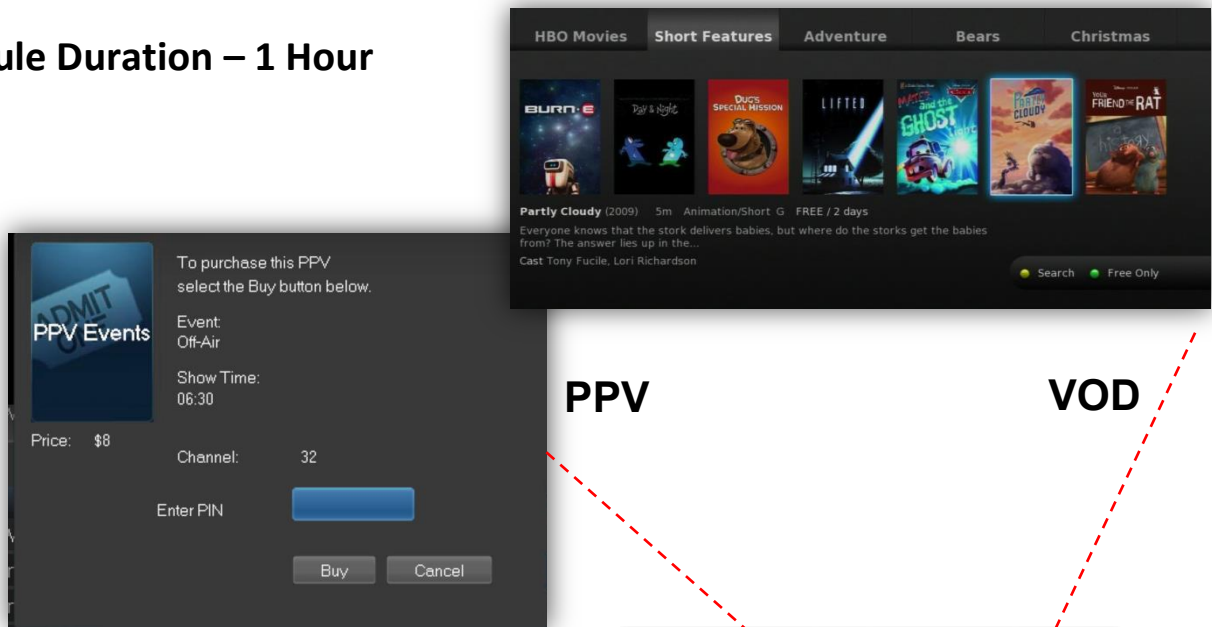

What you will learn in this module:

- iTVFusion system overview
- iTVFusion general operations, maintenance, setup/configuration screens and menus
- Multicast addresses – multicast addresses are used for Live TV programming and also for iTVFusion data feeds. You will learn how iTVFusion regulates the use of these multicast addresses.
- Configuration of the multicast control (Runtime and Message) streams as well as the various boot streams within iTVFusion back office
- The Application dispatcher - checking its status, starting and stopping it, etc.
- Using tcpdump to troubleshoot the iTVFusion system
- Using the tail command to watch the dispatcher log and troubleshoot problems
- Weblogic, appropriate Linux commands and directories, troubleshooting
- System Backup
- System Recovery
- Loading EPG data
- Daily, weekly and monthly maintenance checks
- Linux login, cron jobs, log files, process management
- How to add new admin users
- Basic troubleshooting techniques

Course: Billing and Reporting

Course Module 5

Module Duration – 1 Hour



PPV

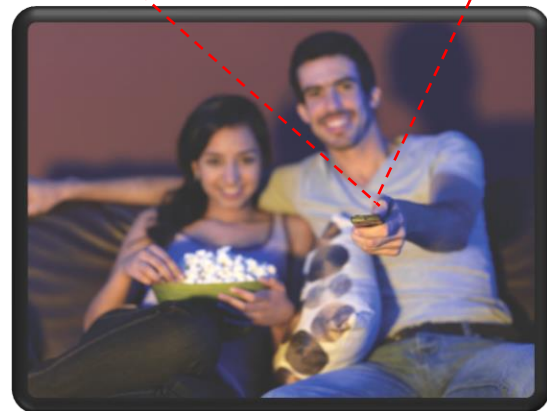
VOD

Intended audience:

- IT Engineers or computer system administrators in charge of servers
- Marketing
- Billing
- Admin, Engineering
- Tech Support

What you will learn in this module:

- Recurring and non-recurring charges as they relate to iTVFusion and a Service Provider's billing system
- Billing files: Extraction, delivery and usage
- Minerva billing reports within the scheduled cron jobs of iTVFusion
- Technical differences between the TAB format and the ARB format
- Using the TAB format for inventory and verification matches to your billing system
- Using iTVFusion to create invoices and access incurred customer charges
- How to identify charge reversals within the iTVFusion system



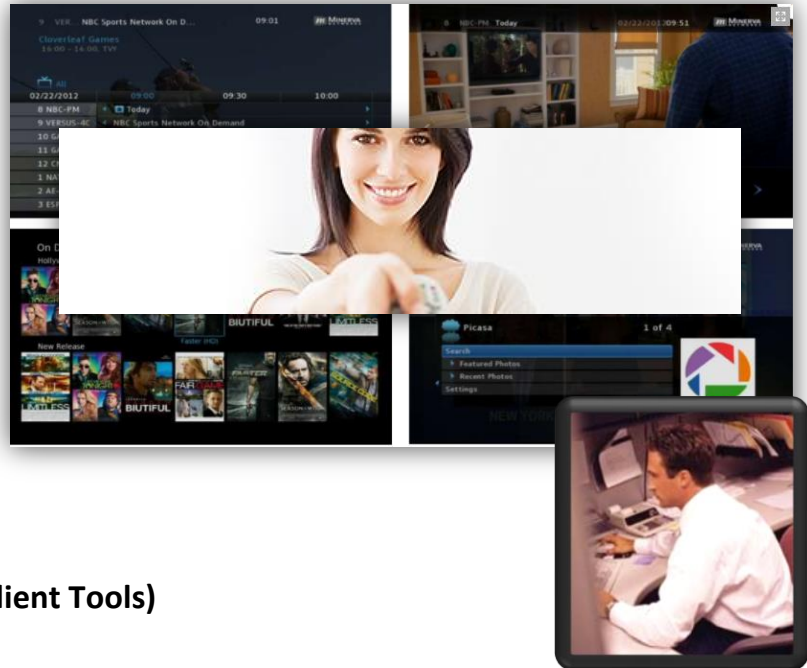
Course: ATools, Devices, Features/Multiscreen TV

Course Modules 6A and 6B

Module Duration – 2.0 Hours

Intended audience:

- Headend Engineers
- Admin, Engineering, Support
- Marketing, Sales
- Management, Decision makers
- Any person required to manage customer provisioning



What you will learn in this module:

Course Module 6A: ATools (Admin Client Tools)

- Generating Messages,
- Resyncing & Rebooting STBs,
- STB information, etc.
- Filtering by - region, wildcard, Device ID, Mac Address, etc.

Course Module 6B: Devices, Features and Multiscreen TV





- Devices
- Get STB Info
- Bandwidth Management
- Remote Scheduling
- nDVR - Network DVR, RSDVR – Remote Storage DVR, Restart TV, CUTV – Catch Up TV
- HLS – HTTP Live Streaming and Unicast support
- Multiscreen Support
- YourTV iTVClient for iOS and Android Devices - allows users to view Live TV and On Demand content from iOS and Android devices.

Course: Minerva Technical Support

Course Module 7

Module Duration - 1 Hour

Intended audience:

-  IPTV, IT Engineers or computer system administrators in charge of servers
-  Admin, Engineering
-  Tech Support
-  Headend Technicians



What you will learn in this module:

- How to sign-up for a support account to access the Web support portal
- How to generate and manage support tickets
- Setting priority levels for support tickets
- How to access the Knowledge Base, searching methods, links to useful information
- How to download: product documentation, software service packs and hot patches from the eSupport site
- When and how to escalate your issues
- Understand the best ways to interoperate with Minerva support staff and expedite problem resolution