Application Server PPV User Guide for System Release i4.3

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

Trademark Acknowledgments

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at **www.cisco.com/go/trademarks**.

Third party trademarks mentioned are the property of their respective owners.

The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1009R)

Publication Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this publication. We reserve the right to change this publication at any time without notice. This document is not to be construed as conferring by implication, estoppel, or otherwise any license or right under any copyright or patent, whether or not the use of any information in this document employs an invention claimed in any existing or later issued patent.

Copyright

Contents

About This Guide

Introduction

This guide provides an end-to-end description of the PowerKEY CAS system support for PPV/NVOD services for System Release i4.3. The following information is included:

- Block diagrams for the Application Server PPV architecture

- PPV implementation models

- PPV System Information parameters and general transaction flows

- Subscriber-level PPV purchase procedures for the DHCT

- Operator-level PPV service setup procedures for the headend

Purpose

The purpose of this document is to summarize the PowerKEY CAS system requirements for a PPV/NVOD system in a format suitable for operations personnel.

Audience

This document is intended for PowerKEY CAS system operators, Cisco engineers, and technical support.

Document Version

This is the first formal release of this document.

1

Chapter 1

Application Server PPV Architecture

Introduction

Cisco supports two system architectures for PPV with PowerKEY conditional access: RPPV (Reservation Pay-Per-View) and Credit-Based PPV. Block diagrams for both systems are presented in this chapter along with a description of the transaction flows between the system elements.
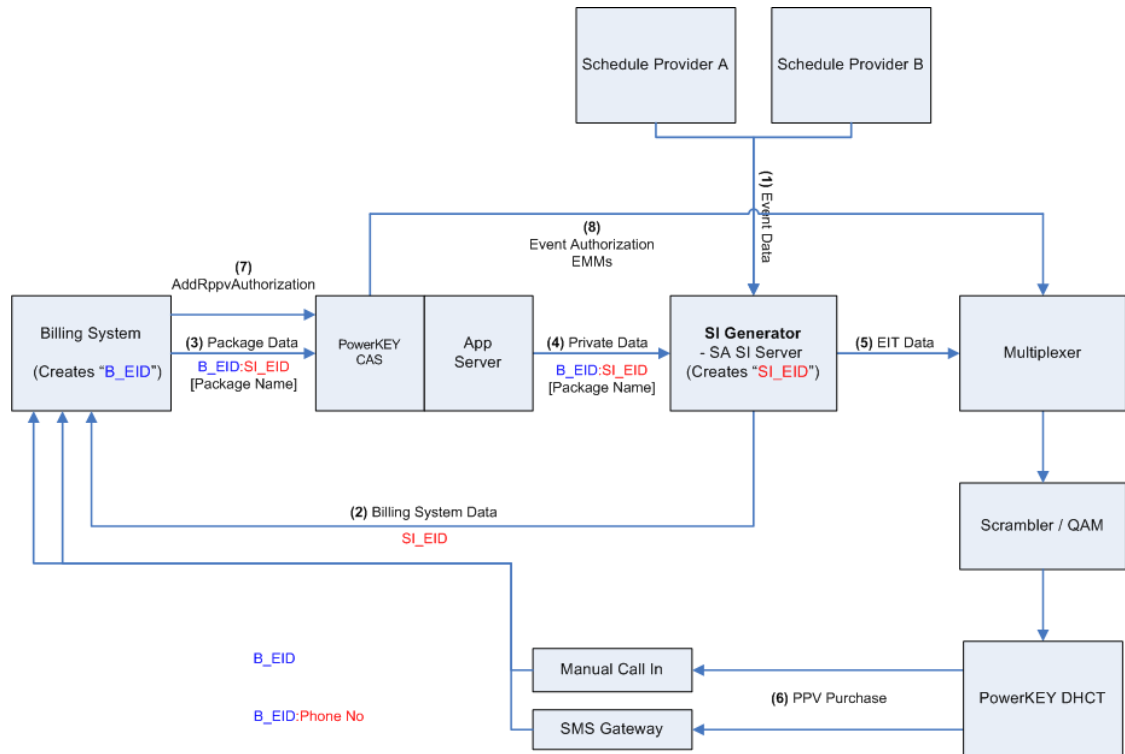
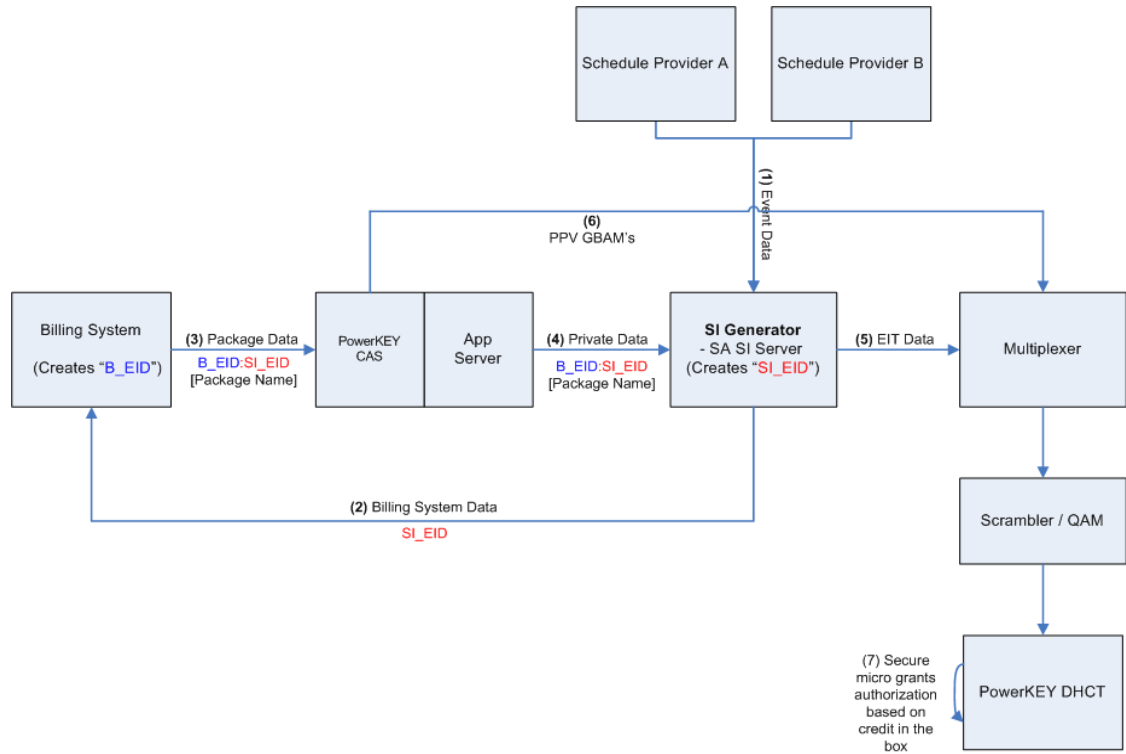## In This Chapter

PPV Headend Architecture

RPPV System Diagram

This is the system diagram for RPPV.

Credit-Based PPV System Diagram

This is the system diagram for Credit-Based PPV.

PPV Transaction Flows

RPPV and Credit-Based PPV transaction flows are described in the table below.

Notes:

■ Each transaction flow is numbered on the respective diagram and indexed in the table descriptions

■ Flows 6 and 7 differ for RPPV and Credit-Based PPV transactions

Flow #	Description
1	This is where the program schedule data (PPV and NVOD) are received (pushed via FTP) from multiple suppliers. The schedules are in XML format. The *Event Data* file contains the schedule of programs with some of them being marked as PPV events. The schedules are supplied in an appropriate format that is agreed upon between the SI Generator manufacturer and the provider. **Note:** The SI Generator must create a unique ID called the *SI_EID* for each event that it stores in its database.
2	All events that are tagged as PPV events are selectively transmitted in the *Billing System Data* file from the SI Generator (pushed via FTP) to the Billing System. The SI_EID is used as a unique index to transmit these events to the Billing System. This is how the Billing System is notified of PPV events. One element of importance that is passed to the Billing System in the Billing System Data File is the *Service_name*. The Service_name originates in the Event Data File (for Barconet XML format) and is referenced as the following in the other system components: ■ SI Server – SI Service Name ■ PowerKEY CAS – PPV Service Name ■ Billing System – Event Short Name For each Service_name in the system, the PowerKEY CAS must have an associated PPV service created. The Service_name must be formally agreed to by the operator and schedule provider before the installation of the PPV services on the DNCS. **Note:** The Billing System creates a unique ID (called the *B_EID*) for each PPV event that it stores in its database.

Flow #	Description
3	The Billing System creates a *Package Name* (B_EID:SI_EID) for all the PPV events. It sends BASS transactions (DefinePpvEvent) to the PowerKEY CAS to create these PPV events. The Application Server stores these events in its database for further processing.

Included as parameters in the DefinePpvEvent transaction is the event start time, duration, package name and PPV Service Name. The DefinePpvEvent transaction has an optional field (EventOrderPhoneNumber), which can be used to pass a phone number for the call center. The Service Name parameter must match the service name for the PPV service provisioned on the PowerKEY CAS. The Package Name is used uniquely to identify a PowerKEY PPV package associated with the event. The package is automatically created on the PowerKEY CAS by the PPV Server. This package is used by the PowerKEY CAS system for ECM and EMM generation necessary for service encryption and for DHCT service decryption. This Package Name is also used to authorize or de-authorize DHCTs for the PPV event.

The Package Name is derived by the Billing System and has this format:

XXXXX:YYYYYYYYYY

Where:

- XXXXX is a 5-digit sequence generated by the Billing System (referred to as the B_EID) that uniquely identifies that event and is subsequently displayed to the subscriber during the PPV purchase process.

- **:** is a delimiter.

- YYYYYYYYYY is the zero padded 10-digit (in decimal) code used internally by the PowerKEY CAS and passed to the Billing System as SI_EID in the Billing System Data File. Its purpose is to establish an explicit linkage between an event in that schedule and the corresponding package subsequently but asynchronously defined by the Billing System via the BASS interface.

EXAMPLE:

SI_EID=7702365000

B_EID = 12345

Package Name = 12345:7702365000

Additionally, this path is also used later to authorize or de-authorize PPV events to a DHCT.

Flow #	Description
4	The Application Server creates private data for insertion into the EIT tables. This private data is the PPV Private Descriptor. After creating the PPV events based on the DefinePPVEvent transactions of step 3, the PowerKEY CAS system will create the private data binary file for transmission (pushed via FTP) to the SI Generator every 10 minutes.

The SI Generator, using the SI_EID as its index will insert these private descriptors into the correct EIT tables.

Flow #	Description
5	This is where the EIT data (P/F, Sched) is pushed to the multiplexers. The EIT for the PPV events contains the PPV Private Descriptor.
6	**For RPPV Transactions**—The DHCT shows the B_EID on the user interface for subscribers who want to call or use SMS. **For Credit-Based Transactions**—The CA message purchase GBAM (General Broadcast Authenticated Message) carries the cost information to the DHCT.
7	**For RPPV Transactions**—The Billing System will issue the authorization command to the DHCT via the DNCS BOSS interface. **For Credit-Based Transactions**—The DHCT will deduct the credit amount indicated by the GBAM from the available credit. When the deduction transaction completes, the user is allowed to watch the event.
8	The DNCS sends the authorization EMM to the DHCT. **Note:** This step does not apply to Credit-Based transactions.

2

PPV Implementation

Introduction

There are three PPV implementation models supported by the PowerKEY CAS headend:

- NVOD (Near Video on Demand)
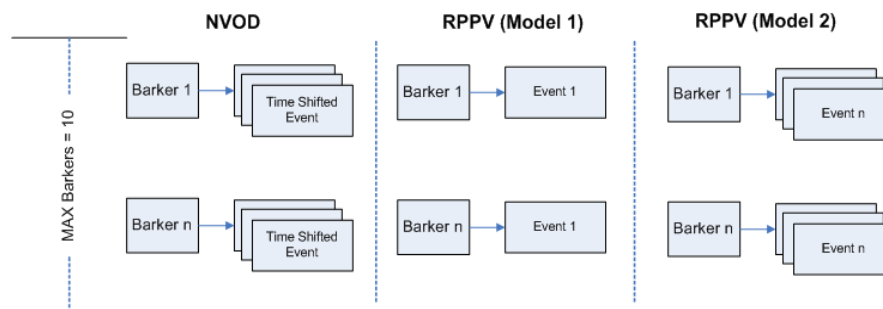
- RPPV Model 1

- RPPV Model 2

The models are described in this chapter.

In This Chapter

PPV Implementation Models

The PPV implementation models differ in how they handle PPV barker channels and events.

Channel barkers and the PPV implementation models are explained below.

Barker Channels

A PPV barker channel is the PPV event advertisement channel. Barkers show subscribers what PPV events are available and how to order them.

Notes on Barker Channels:

■ A DHCT can support a maximum of 10 PPV barker channels

■ There is no concept of a text barker for PPV channels in the PowerKEY architecture

■ The barker channel either shows the barker content and a purchase dialog when no purchased PPV events are active or they show the purchased PPV event

■ A DHCT can only show one purchased event behind its linked channels

NVOD Model

The NVOD model is used if there are multiple time shifted events behind a single PPV Barker. Up to 10 different NVOD events can be advertised with multiple shifted events behind it.

RPPV Model 1

RPPV Model 1 allows one event to be shown behind a PPV barker. This model has the advantage of allowing subscribers to watch multiple purchased events at the same time. The limitation to this model is that you can only have a maximum of 10 advertised PPV events. (**Note:** The limitation is due to memory constraints on the DHCT.)

RPPV Model 2

RPPV Mode 2 allows multiple events behind one common barker. This model allows greater expansion of the number of PPV events that can be presented on a system. The main challenge is to bundle all the correct events under a common barker. One disadvantage to this model is that you can only watch one purchased event at a time, because there is only one barker channel.

3

PPV SI Table Usage

Introduction

This chapter provides a high level explanation of the SI data configuration requirements for PPV on a PowerKEY CAS headend.

In This Chapter

PPV SI Tables

Network Information Table

The PPV service must be specified in the Network Information Table (NIT). The service must be specified in the service list for the transport stream the service resides on. The PPV service is treated as standard Digital Television Services in the NIT. In addition, all PPV services must have their associated Source ID-to-Service ID mappings defined in the NIT under each transport stream loop.

Service Description Table

The PPV service must be specified in the Service Description Table (SDT) for the corresponding transport streams. The PPV Service must be set to encrypted (Free CA Flag checked). In addition, the service should be set up to have the EIT Schedule and EIT Present/Forwarding (P/F) tables present.

EIT Present/Following and Schedule Tables

The EIT Schedule table contains IPG information for scheduled PPV events. A private descriptor is included in the event loop for each PPV event listed in the EIT Schedule table. The private descriptor contains purchase and PowerKEY CA package information for each event. The DHCT application uses this information during the event purchase. The SI Generator is responsible for inserting the private descriptor into the EIT P/F and Schedule tables. The SI Generator gets the information required to populate this descriptor from an imported binary file from the Application Server based on the events in the PPV schedule.

Currently for NVOD and PPV, only the entitlement_id, price_char, and package_char fields from this PPV descriptor are used by the DHCT.

Bouquet Association Table

The PowerKEY DVB System uses special PPV Bouquet Association Tables (BAT). This is how the PPV channel and associated Event Channels are defined in the system. For each PPV channel in the system, there is an associated BAT table. Each BAT table can have any Bouquet ID assigned to it, so long as it is unique. In practice, the starting Bouquet ID is typically 196. The key to identifying a PPV bouquet from a regular bouquet is to have a linkage type of 0x81 or 0x82 (for an explanation, see the table and notes below). This type of bouquet will define the PPV channel and also all the events associated with this channel. (**Note:** All the PPV Service IDs and their Logical Channel numbers must be defined in the standard bouquets [All Channels Bouquet ID 192] to be able to tune to a PPV channel and perform purchases.)

The PPV BAT format is presented in this table.

Field	Remarks
table ID	0x4A = BAT
…	
bouquet_ID	Must be unique. Typical start = 196
…	
Descriptor Loop {	
Bouquet_name_descriptor	Name of this Barker/Promo channel
Linkage_descriptor	Barker Channel Parameters
linkage_type	0x81or 0x82 (*)
transport_stream_ID	TS ID of PPV channel
original_network_ID	ON ID of PPV channel
service_ID	Service ID of PPV channel
}	
Transport Stream Loop {	PPV Events Parameters
{	
TS_ID	TS ID of Events
ON_ID	OnID of Events
Service_List_descriptor	List of PPV Event Services; the order of services in this loop determines placement in EPG.
Service_ID	Service ID of Event 1
Service Type	Service Type of Event 1
Service ID	Service ID of Event 2
Service Type	Service Type of Event 2
}	
{	
TS_ID	TS ID n of Events n

Field	Remarks
ON_ID	OnID n of Events n
Service_List_descriptor	
Service_ID	Service ID of Event n
Service Type	Service Type of Event n
}	
}	

Notes:

- If linkage type is 0x81 then it's a PPV barker service with the list of event services given in the transport stream loop (used for NVOD model).

- If linkage type is 0x82 then it's a PPV service with a list of services in the transport stream loop that needs to be authorized for this PPV service to be shown.

BAT Transaction Flows

The following table describes the transaction flows referenced in the PPV BAT format.

Flow #	Description
1	Once a subscriber tunes to a PPV channel or is in the EPG grid and initiates the PPV purchase sequence, a message is presented on the DHCT that describes the steps to purchase the event.
	At this point, the subscriber has 3 options on how to complete the purchase. The first option is to call in the purchase, the second option is to send an SMS text message to perform the purchase, and third option is to purchase it using the available credit on the DHCT if the customer has chosen the prepaid methodology.
	Call-In Method:
	The Confirm PPV Purchase screen displays the B_EID. The subscriber calls the call-in number (this number can be obtained from the Telephone Descriptor in the EIT) and says out this B_EID. At this point, the CSR authorizes this package to the subscriber's DHCT.
	SMS Method:
	The Confirm PPV Purchase screen displays the SMS instructions (contains the SMS action characters and the B_EID) that the subscriber can simply SMS to the SMS gateway. At this point, the SMS Gateway identifies this customer and sends the B_EID and Phone number to the Billing System for authorization of the PPV event.

Flow #	Description
	Pre-Paid Credit Method:
	The Confirm PPV Purchase screen displays the available credit and the credits required to watch the event. If the subscriber presses "Ok" then the credit is deducted appropriately and the subscriber is allowed to watch the event. In the event of insufficient credit available on the DHCT the subscriber is given information that they would need to contact the MSO.
2	In the Call-In and SMS methods, once the Billing System resolves the customer and is ready to send an authorization, it uses the AddRppvAuthorization BASS transaction to authorize the DHCT for this event. Additionally, it can use the RemoveRppvAuthorization BASS transaction to cancel the PPV authorization if the customer calls back or uses SMS to cancel the event.
3	Reception of the BASS authorization or de-authorization commands from the Billing System triggers the transmission of the PPV Entitlement EMMs to the DHCT.

4

# DHCT PPV Purchase Methods

Introduction

The methods and procedures for purchasing PPV events at subscriber DHCTs are described in this chapter. Additionally there is also a description of how the actions taken by the subscriber are handled at the headend.

In This Chapter

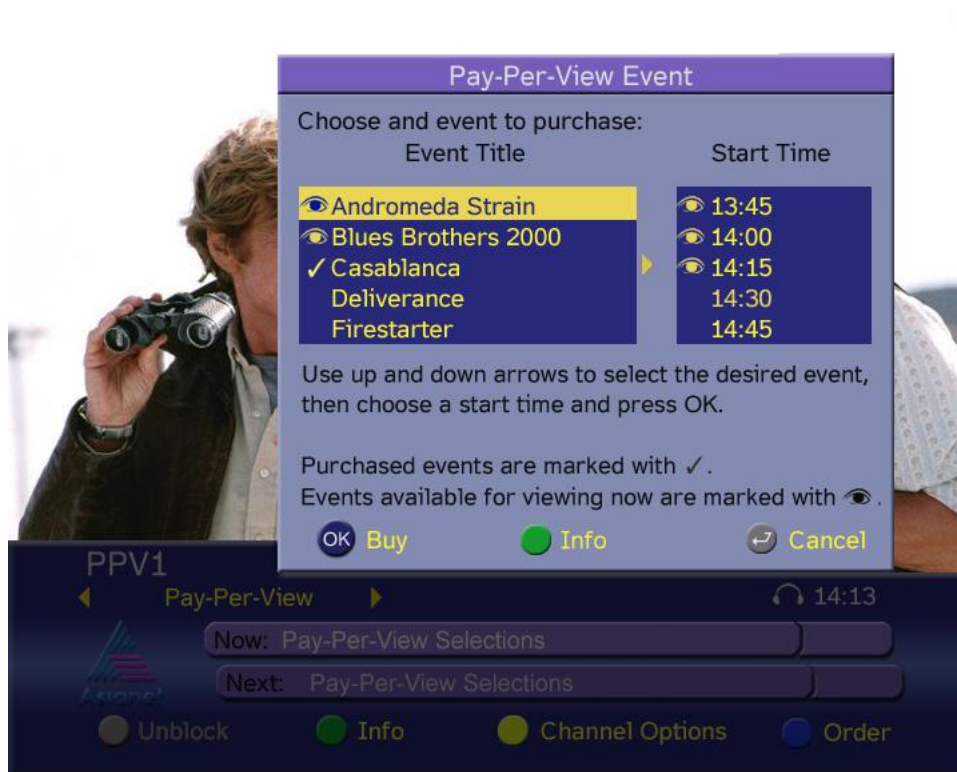# Event Channel Purchases

A PPV event can be purchased from the PPV channel or the EPG grid. A subscriber must first enter his or her PIN.
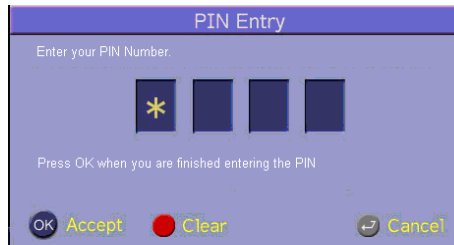
Next, the subscriber is shown a screen where all the events linked behind this PPV channel are displayed for purchase. The number of events displayed depends on the PPV model.

Below is a typical PPV purchase screen from the PPV channel for the SA Zapper DHCT.

IPG Grid Purchases

A PPV event can also be purchased from the IPG grid. In this scenario, the subscriber will see all the events linked behind this PPV channel. Depending on which PPV model is chosen, the PPV purchase screen will display one or many events to purchase.

The following is a typical NVOD/PPV purchase screen from the IPG for the SA Zapper DHCT.
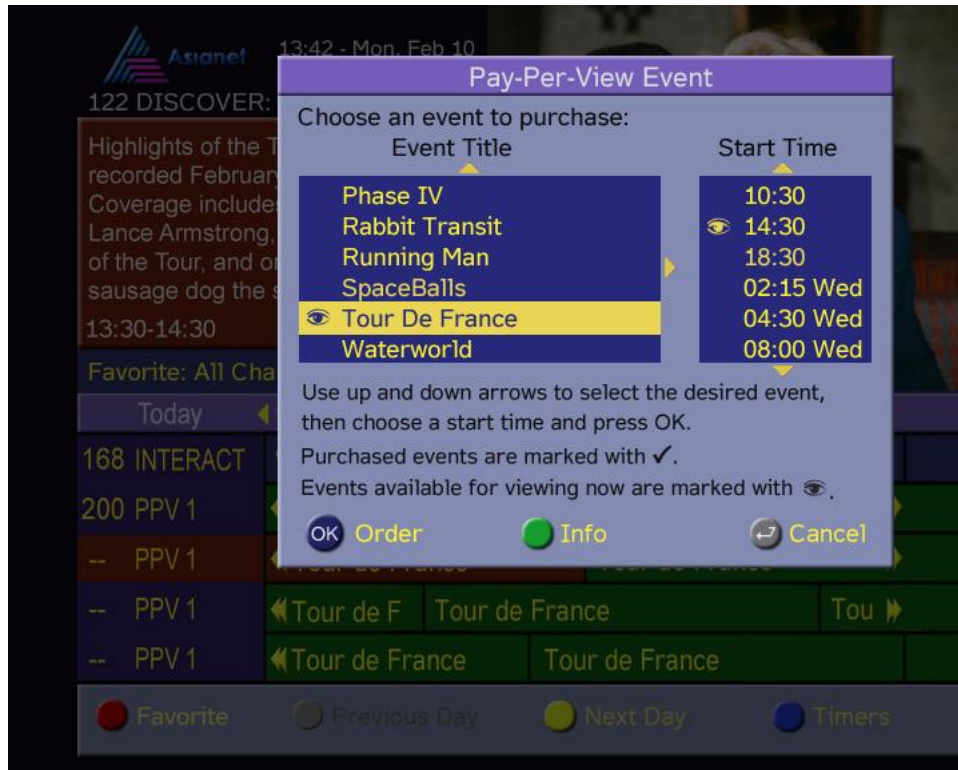
Purchase Confirmation

Once a purchase has been initiated from the PPV channel or from the IPG screen, the PPV Purchase Confirmation screen appears. This screen gives the subscriber three ways to purchase the event:

- SMS

- Call-In

- Pre-Paid Credit

Each alternative is described below.

SMS Purchases

For this purchase method, the Billing System Event ID (B_EID) for a particular PPV event is displayed on the PPV purchase screen.

To make or cancel a purchase, the subscriber must supply the following information to the Billing System through an SMS message:

- Customer PIN Number - this is provided to the subscriber by the cable operator through mail or other means.

- Event Action Code – this is a single character (either: b/B or c/C) entered by the subscriber to indicate a preference of b/B to buy or c/C to cancel a PPV event.

- B_EID Code – A 5-digit number that describes the specific event at the specific time and is displayed to the subscriber in the PPV purchase event barker.

- Box Number – Single digit number that describes which DHCT the customer wishes to order the event for in case he has more than one DHCT.

The SMS message may be formatted as follows:

PPPP A EEEEE [B]

Where:

- *PPPP* is a 4 digit PIN.
- *A* is the action code (B or C: B = Buy, C = Cancel).
  (On the user interface, the value defaults to B since subscribers only order here.)
- *EEEEE* is a 5-digit event ID.
- *B* is the box number (this number can be omitted if the box number is 1).

Once the SMS message is collected and identified by the SMS gateway, it is sent to the Billing System. The Billing System matches the phone number with its database to find the correct DHCT MAC address, then sends the authorizations to the DHCT.

Call-In Purchases

For this purchase method, the B_EID is displayed on the Confirm PPV Purchase Screen. The subscriber must call the Billing System call center at the posted phone number and call out the B_EID value to the customer service representative (CSR). The CSR uses the B_EID value and customer details to match with the correct DHCT MAC address and then sends the authorizations to the DHCT.

Pre-Paid Credit Purchases

For this purchase method, the Billing System first adds credit to a DHCT account using a BOSS transaction.

This action triggers an EMM from the DNCS which tells the secure micro on the DHCT to load a certain amount of credit points onto the device.

If there are enough credits, the secure micro will allow the subscriber to purchase/watch a given event.

Pay per view

Program: Andromeda Strain
Time: 13:45 - 14:00
Point: 30
Your current points: 175
To Buy, press "OK"
To cancel, press ⏎

CK Buy   ⏎ Cancel
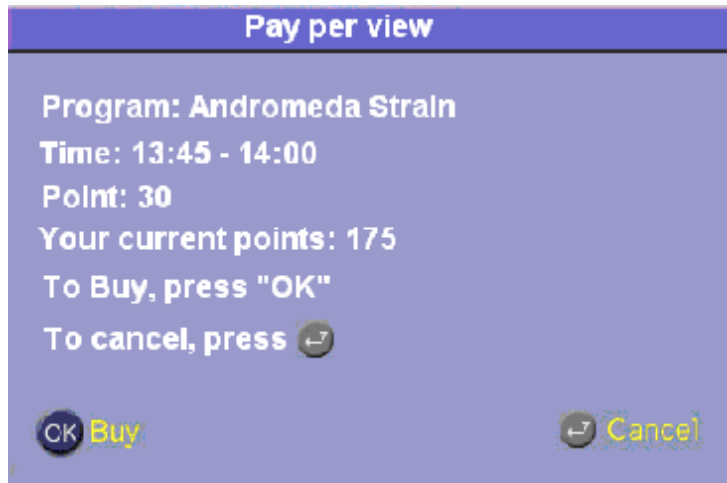
DHCT PPV Event Tuning

For PPV event purchases from the IPG Grid, the DHCT saves a PPV Reminder Timer for future auto-tuning. For all PPV purchases, the Event Entitlement ID and Service ID details are also stored in non-volatile memory. These parameters are then used to switch to the PPV event content if the Entitlements from the PowerKEY CAK (Conditional Access Key) indicate that the event is authorized.

When a PPV event is purchased, it is the responsibility of the DHCT to track the event start time, if the purchase is made from the IPG grid. In this case, a Reminder Banner will appear one minute before the event start and will cause the DHCT to auto-tune the PPV event at the start time. The graphic below shows a PPV Reminder timer banner.
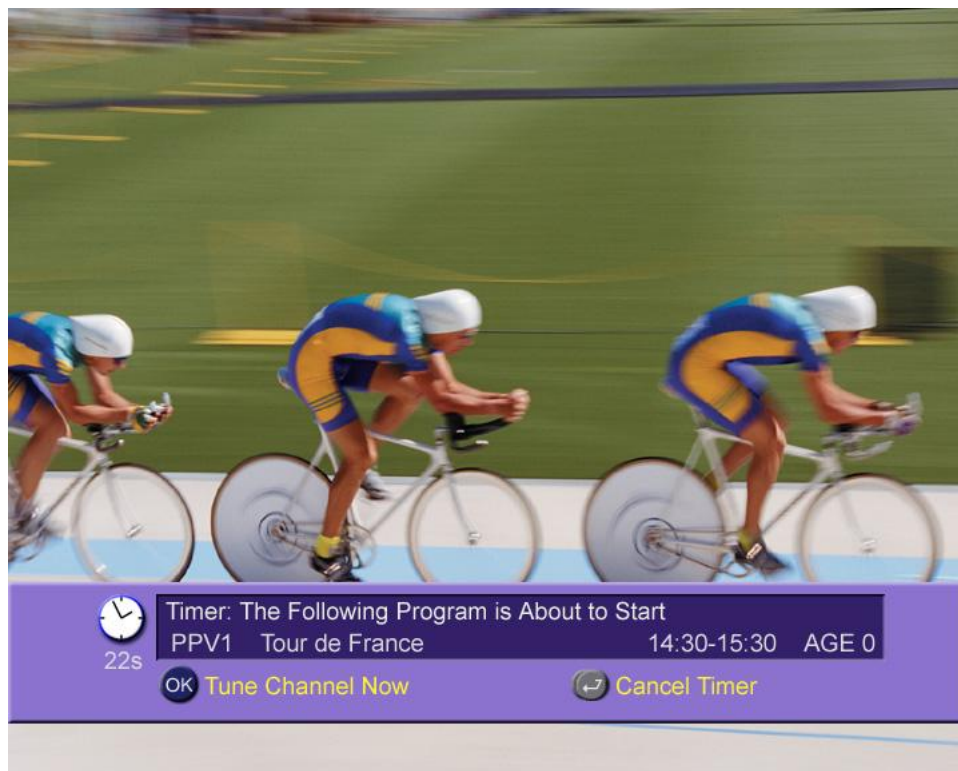
When the PPV event is active, and the DHCT has tuned (manually or auto-tune) to the correct PPV channel, the DHCT will automatically switch out the promotional video with the event's encrypted video. It makes this switch decision when the purchased PPV event is authorized by the PowerKEY CAK.

Billing System BASS Commands

The BASS/BOSS API supports different PPV commands that can be used to define PPV events or send authorization or de-authorization commands for a particular DHCT or Add/Subtract/Reset credit for a particular DHCT.

These BASS/BOSS interface transactions are sent from the Billing System to the PowerKEY CAS.

The PPV Define transaction is sent when there is a new batch of PPV event definitions from the SI Generator. The authorize and de-authorize transactions are sent as the result of the subscriber purchasing or canceling a PPV event by SMS message or by calling the Billing System call center. The credit transactions are sent based on purchase credits that should be added to the DHCT.

The following tables define the BASS commands for RPPV Authorization and the BOSS command for PPV Credit.

BASS RPPV Authorization Commands

The table below describes the BASS RPPV Authorization commands.

Command	Operation
DefinePpvEvent	Defines a PPV event. Typically sent by the Billing System when new PPV event updates have been received from the SI Generator. **Important Note:** All HKC events must be created as ImpulsePayPerView events so that the user has capability to buy it using pre paid credit method.
RetirePpvEvent	Deletes a PPV event. Typically sent by the Billing System when a PPV event removal has been received from the SI Generator.
AddRppvAuthorization	Sent by the Billing System when there has been a successful purchase by the DHCT user either by a call-in or via SMS.
RemoveRppvAuthorization	Sent by the Billing System when there has been a cancellation order by the DHCT user either by a call-in or via SMS.

BOSS PPV Credit Command

The table below describes the BOSS PPV Credit command.

Command	Operation
ModifyPpvCredit	This transaction is used to update (add, subtract, reset) pre-paid PPV credit.

5

Chapter 5

Configuring PowerKEY CAS for PPV

Introduction

To configure PowerKEY CAS for PPV on the DNCS, you must provision the following services:

- Barker Service
- PPV Event Use Service
- PPV Service

Once these services are provisioned, the BASS interface from the Billing System will be able to insert all active PPV events into the PowerKEY CAS database, and your system will be able to generate PPV events.

The procedures for provisioning these services are documented in Chapter 7 of *Configuring the PowerKEY DVB System for System Release i4.3 Instructions* (part number 4036648).

6

Customer Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.

A

Cisco Billing System Data Files

Introduction

The Cisco SI Server exports event schedule information to the Billing System using the Billing System Data file. The file is generated either automatically or manually using the export facilities of the EPG Editor component of the Cisco SI Server.

Note: This file format is only applicable to the Cisco SI Server.

In This Appendix

Transmission Requirements, File, and Filename Formats

Billing System Data File Transmission

The Billing System data file is transmitted via FTP to the Billing System. The SI Server must be programmed with the IP Address, Username, Password, and working directory for the file.

Billing System Data Filename Format

The naming convention to be used for the event data file created by the SI server is:

PPV<vendor name><year><month><day><hour><minute><second><unique number for the file>

Where:

Name Variables	Description	Size (Characters)
PPV	Identifier/prefix for the file indicating that the file has been transferred by the SI server to the Billing System.	3
Vendor Name	Unique name given to each content provider.	2
Year	The year the file would be processed. The value of year should be taken from the system date. **Example:** 2005 = 05	2
Month	The month the file would be processed. The value of month should be taken from the system date. **Example:** July = 07	2
Day	The day the file would be processed. The value of day should be taken from the system date. **Example:** 1 = 01	2
Hour	The hour the file would be processed. The value of hour should be taken from the system 24-hour clock. **Example:** 10:00 AM = 10; 10:00 PM = 22	2
Minute	The minute the file would be processed. The value of minute should be taken from the system time. **Example:** 9 = 09	2

Name Variables	Description	Size (Characters)
Seconds	The second the file would be processed.	2
	The value of second should be taken from the system time. **Example:** 9 = 09	
Unique number given to file	A unique identifier for each file that is processed by a vendor for each day. The value should be in the range of 01-99	2

Billing System Data File Format

The following table is the format of this file (UTF-8 encoded):

Field Name	Start Position	Length	Type	Example/Remarks
EDESC	1	25	CHAR	Event description — UTF-8 encoded
ESDAT	26	6	NUM	Event start date — YYMMDD format
ESTIM	32	4	NUM	Event start time — HHMM format in local time
EEDAT	36	6	NUM	Event end date — YYMMDD format
EETIM	42	4	NUM	Event end time — HHMM format
ESHRT	46	10	CHAR	Event short name — Caution! This will carry the content providers' name and will be later used for Reporting purposes! (UTF-8 encoded)
ETITL	56	5	CHAR	Title Code
ESEVT	61	10	NUM	Suppliers Event ID — This ID will be used for creating the Event on the PowerKEY CAS using the BASS interface and represents the SI-Server internal Event ID. It is used to determine the PowerKEY CAS PackageName for the event.
PRICE	71	7,2	NUM	Proposed billable price from content provider for this event — this will be ignored for the time being.
ESST1	80	1	CHAR	Sensitivity Code — this will be a ‚S' if applicable. Otherwise blank.
ECENR	81	4	CHAR	Censorship Rating — Censorship rating scale. The following can be in here: 1 == Universal 3 == Age 6+ 9 == PG 13 == Aged 16+ 15 == Adult

B

Private Data Files

Introduction

PPV and Telephone Descriptor information is transferred via private data file from the Application Server to the SI Generator. The SI Generator then inserts the data into the appropriate EIT table.

Private data files and filenames must adhere to strict formats. This appendix describes the formats and transmission requirements.

In This Appendix

Transmission Requirements, File, and Filename Formats

Private Data File Transmission

Private data files are transmitted via FTP to the SI Generator. The Application Server must be programmed with the IP Address, Username, Password, and working directory for the file.

Private Data Filename Format

The private data filename must follow this format:

EventTransactions_YYYYYMMDDHHMM.bin

Where:

Name Variables	Description	Size (Characters)
YYYY	The year the file would be processed.	4
	The value of year should be taken from the system date. **Example:** 2005 = 2005	
MM	The month the file would be processed.	2
	The value of month should be taken from the system date. **Example:** July = 07	
DD	The day the file would be processed.	2
	The value of day should be taken from the system date. **Example:** 1 = 01	
HH	The hour the file would be processed.	2
	The value of hour should be taken from the system 24-hour clock. **Example:** 10:00 AM = 10; 10:00 PM = 22	
MM	The minute the file would be processed.	2
	The value of minute should be taken from the system time. **Example:** 9 = 09	

Private Data File Format

The table below describes the private data file format.

Value	Bits	Data Type	Example	Meaning
FileVersion	32	Uimsbf	0x00000001	Syntax version of the file
FileLength	32	Uimsbf	0x00000018	Length of the file in bytes after these bytes
				e.g. for a file containing one RemoveAllEventDescriptors transaction this would be 4 + 4 + 16 = 24
for (i=0;i<N;i++)				
TransactionType	32	uimsbf	0x00000001	AddEventDescriptor
			0x00000002	RemoveAllEventDescriptors
TransactionLength	32	uimsbf	0x00000010	Length in bytes after these bytes for the transaction
PackageName	16*8	Char[16]	'12345:000000001'	PackageName : 5 characters representing B_EID followed by colon, followed by 10 decimal characters representing SI_EID
For AddEventDescriptor(TransactionType=0x00000001) transactions				
DescriptorLoopLength	32	Uimsbf	0x00000050	Descriptor loop length: number of bytes of all descriptors
for (j=0;j<N;j++)				
Descriptor()	8*X	Byte*X	0x000102030405…	Bytes of the descriptor

Glossary

B_EID

Billing System Event ID. A value that identifies an event that the Billing System uses to authorize a purchase. B_EIDs are typically displayed on the PPV Purchase Screen, which the subscriber must reference when requesting authorization to purchase an event.

Barker Channel

PPV Promotional Channel. A cable tv channel that is used almost entirely to broadcast barkers, which market events and features for the provider carrying the channel. Barkers also show subscribers what PPV events are available and how to order them.

BASS

Business Application Support System. A subset of the BOSS (Business Operation Support System) which is the interface between the DNCS/ISDS and the ANPs (Administrative Gateways of Access Network Providers) for analog and digital broadcast services.

BOSS

Business Operations Support System. Open Network Computing RPC protocol for sending requests and responses. It is used by the Billing System to interface to the DNCS and is one of the DNCS/ISDS interfaces for communication with SMS hosts. All BOSS requests are processed by the BOSS server and routed to the proper DNCS/ISDS component.

CAS

Conditional Access System. The PowerKEY CAS is a flexible, secure Digital Rights Management (DRM) system for supporting digital and analog services. The system offers software encryption and decryption and uses secret key, public key, and private key data to secure the digital signal.

DHCT

Digital Home Communications Terminal. Our digital set-top that is two-way capable for interactive services.

ECM

Entitlement Control Message. System-wide information that "unlocks" an encrypted service by transmitting control words. Each ECM is unique for each service. An ECM enables cryptographic partitioning so that different Entitlement Agents (EAs) can selectively grant access to their own services.

EIT

Event Information Tables. Refers to the Present/Forwarding and Schedule tables where the system stores private descriptors and IPG information for scheduled events.

EMM

Entitlement Management Message. Contains information for a specific DHCT that enables it to access secure services.

EPG

Electronic Program Guide. A non-interactive program guide that is typically broadcast on a dedicated channel and consists of a menu that lists current and upcoming programs on all available channels.

FTA

Free To Air. Cable content that is unencrypted and generally available without subscription.

GBAM

Global Broadcast Authenticated Message. GBAMs provide a mechanism that allows IPPV purchases to be secured. The combination of tokens is required to purchase specific events.

IPPV

Impulse Pay-Per-View. Service for which cable subscribers can electronically order program events using two-way (or reverse path) methods. Subscribers are charged a user fee for individual program events. *See also* PPV.

PPV

Pay-Per-View. Service for which subscribers are charged a user fee for individual program events. *See also* IPPV.

QAM

Quadrature Amplitude Modulation. A frequency modulation technique primarily used for program audio and video.

RPPV

Reservation Pay-Per-View. Requires the subscriber to use the telephone to reserve a PPV event.

SAM

Service Application Manager. Associates a specific service with an application that defines the medium to be used for that service, such as the World Wide Web. The SAM maintains the application in a specific directory to be used when needed by the DHCTs.

SI

System Information. A standard set of tables providing the data necessary for a navigation device to discover and access services.

SI_EID

SI Generator Event ID. A value that indexes a PPV event that is stored in the SI Generator database. The value is created by the SI Generator when an event is added to its database.

SMS

Short Messaging System. The SMS is used to convey purchase information from the DHCT/barker interface to the PowerKEY headend.