

KX-TDA Series PBX
CSTA Messages
Sample Sequence



Rev. 1.2

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Panasonic Communications
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Preface

This document shows sample CSTA messages between a KX-TDA Series PBX and a PC.

Revision History

Revision	Section	Description	Date
1.0		First release	2005/7/6
1.2	Section 3	Added	2005/9/9

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1. Association Control Overview

1.1. Association Establishment

TDA series PBX supports an explicit association realized through the use of ACSE. Once an association has been established, the PBX is ready to receive CSTA services.

Basic steps for association establishment are as follows;

Step 1: Association setup by ACSE

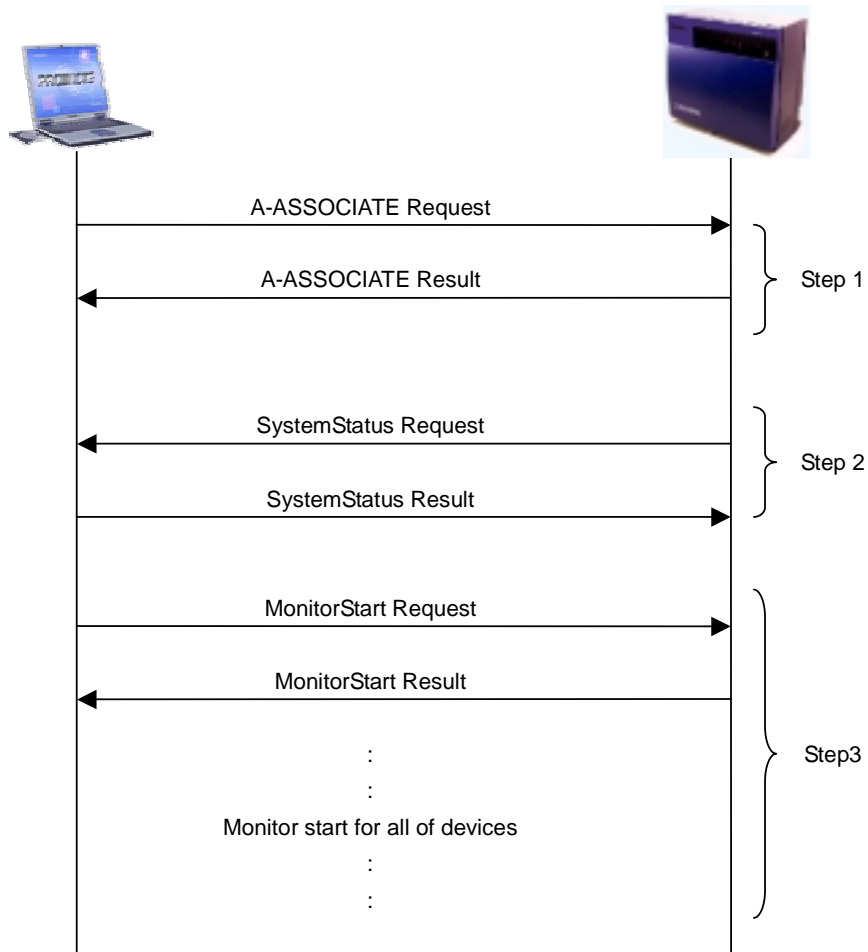
Step 2 : SystemStatus service request/acknowledgement

After this step, the PBX can accept a CSTA service request from the PC.

Step 3 : MonitorStart service for each device in the PBX

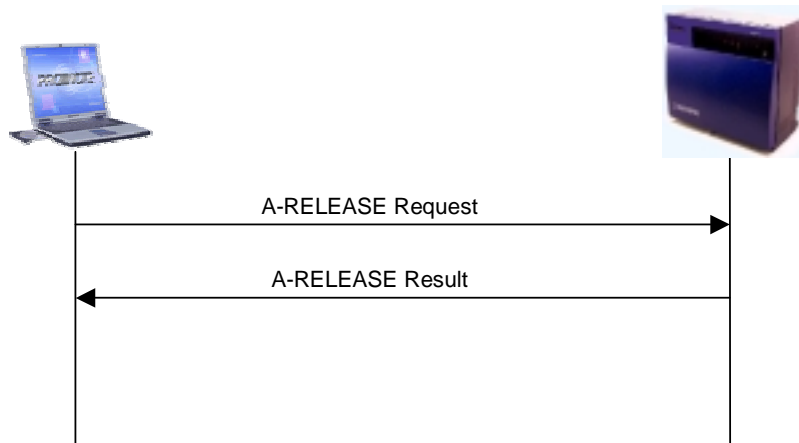
After this step, the PBX generates CSTA events to the PC.

Actual initialization sequence of CSTA messages for the explicit association is as follows.



1.2. Association Release

When the PC wants to disconnect an association to the PBX, only A-Release Request is needed. MonitorStop service is not needed because the PBX automatically stops monitoring once the association is disconnected.



2. Actual Messages in HEX representation

2.1. A-ASSOCIATE Request

```
60238002 0780A107 06052B0C 00815ABE 14281206 072B0C00 821D8148 A007A005
03030008 00
```

Decoding

60 23	AARQ-apdu
80 02 0780	protocol-version { version1 }
A1 07	application-context-name
06 05 2B0C00815A	{ 1 3 12 0 218 }
BE 14	user-information
28 12	
06 07 2B0C00821D8148	direct-reference { 1 3 12 0 285 200 }
A0 07	single-ASN1-type
	(ACSEUserInformationForCSTA)
A0 05	newDefinition
03 03 000800	cSTAVersion { versionFive }

Note : The content of this message is fixed.

2.2. A-ASSOCIATE Result

```
612F8002 0780A107 06052B0C 00815AA2 03020100 A305A103 020101BE 14281206
072B0C00 821D8148 A007A005 03030008 00
```

Decoding

61 2F	AARE-apdu
80 02 0780	protocol-version { version1 }
A1 07	application-context-name
06 05 2B0C00815A	{ 1 3 12 0 218 }
A2 03	result
02 01 00	accepted
A3 05	result-source-diagnostic
A1 03	acse-service-user
02 01 01	no-reason-given
BE 14	user-information
28 12	
06 07 2B0C00821D8148	direct-reference { 1 3 12 0 285 200 }
A0 07	single-ASN1-type
	(ACSEUserInformationForCSTA)
A0 05	newDefinition
03 03 000800	cSTAVersion { versionFive }

2.3. SystemStatus Request

A10C0201 01020200 D330030A 0102



A1 0C	ROSE-Invoke
02 01 01	invokeId present : 1
02 02 00D3	opcode local : 211
30 03	SystemStatusArgument
0A 01 02	systemStatus normal

2.4. SystemStatus Result

A20B0201 01300602 0200D305 00



A2 0B	ROSE-ReturnResult
02 01 01	invokeId present : 1
30 06	SystemStatusResult
02 02 00D3	opcode local : 211
05 00	noData

2.5. MonitorStart Request (Extension 101)

A1110201 78020147 30093005 80033130 31A000



A1 11	ROSE-Invoke
02 01 78	invokeId present : 120
02 01 47	opcode local : 71
30 09	MonitorStartArgument
30 05	monitorObject deviceObject
80 03 313031	deviceIdentifier dialingNumber : "101"
A0 00	requestedMonitorFilter

Note : MonitorFilter can be specified by the PC.

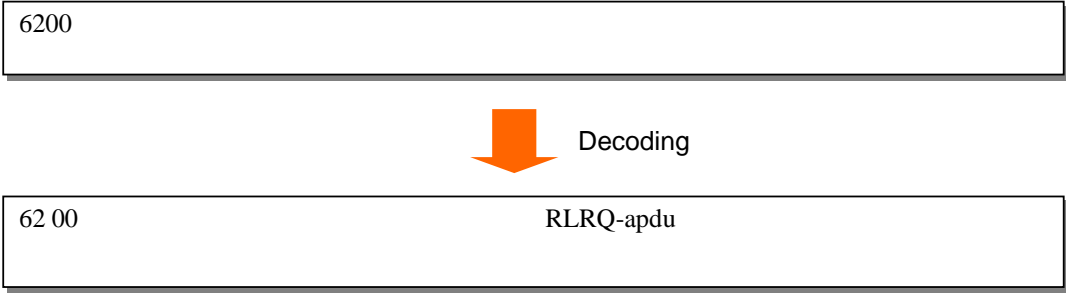
2.6. MonitorStart Result

A2360201 78303102 0147302C 55040111 0000A024 80040680 03C08602 03708702
06C08803 05BF6089 03020034 83020520 850201FE 84020700

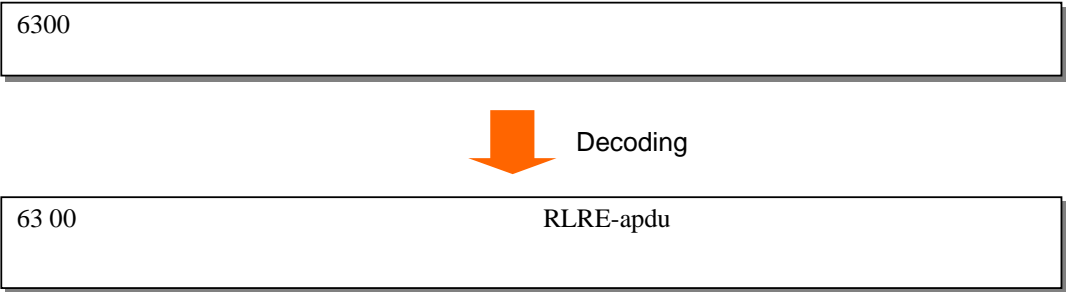


A2 36	ROSE-ReturnResult
02 01 78	invokeId present : 120
30 31	result
02 01 47	opcode local : 71
30 2C	MonitorStartResult
55 04 01110000	crossRefIdentifier '01110000'H
A0 24	actualmonitorFilter
80 04 068003C0	callControl
86 02 0370	callAssociated
87 02 06C0	mediaAttachment
88 03 05BF60	physicalDeviceFeature
89 03 020034	logicalDeviceFeature
83 02 0520	maintenance
85 02 01FE	voiceUnit
84 02 0700	private

2.7. A-RELEASE Request



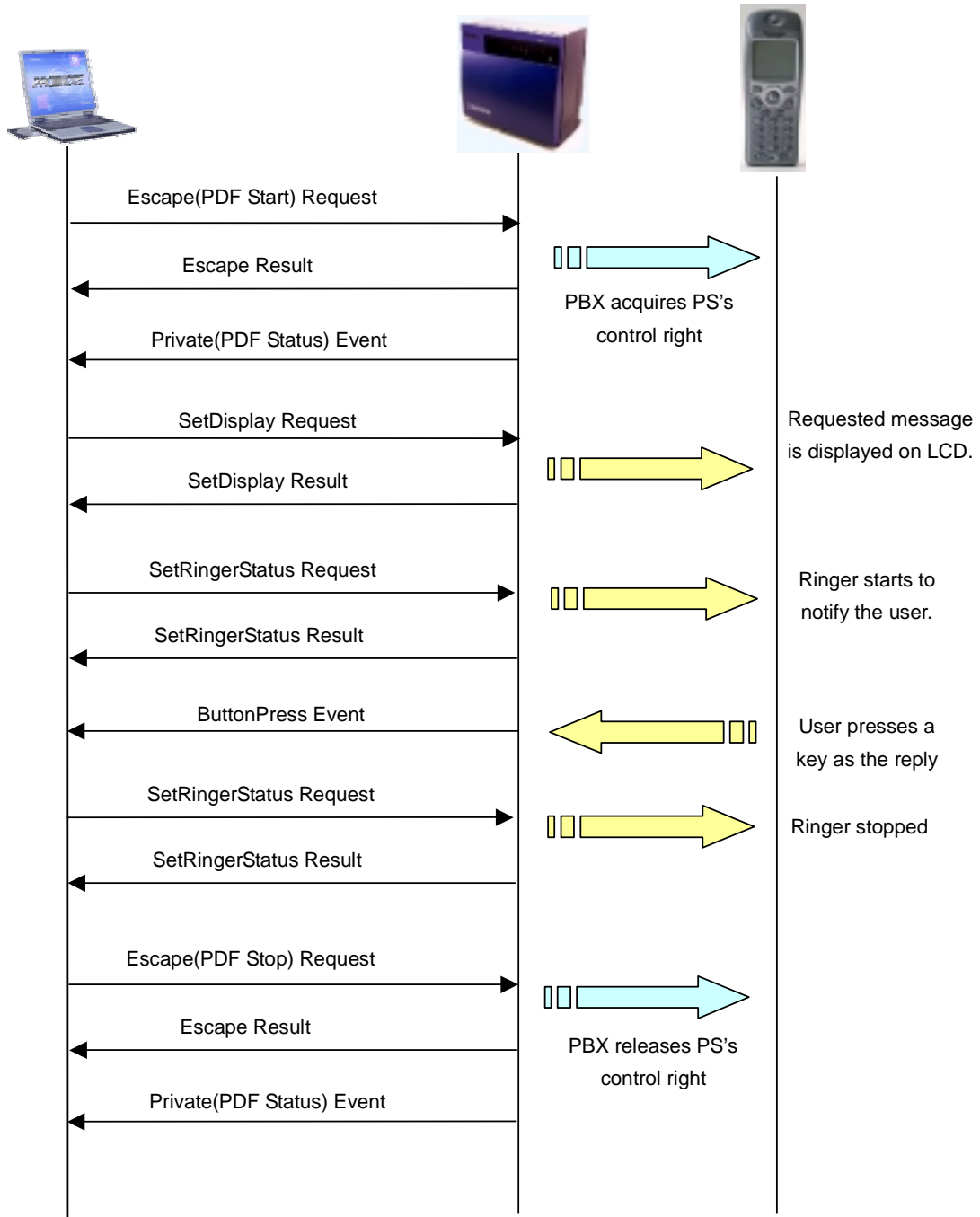
2.8. A-RELEASE Result



3. PS Control Sample

3.1. Overview

This sample shows how to control a PS by CSTA Physical Device Features Services from PC. In TDA PBX, an Escape service is needed to begin controlling a PS before starting CSTA standard service requests.



3.2. Escape(PDF Start) Request

A1160202 00930201 33300DAB 0BA00930 07300580 03323031

 Decoding

A1 16	ROSE-Invoke
02 02 0093	invokeId present : 147
02 01 33	opcode local : 51
30 0D	EscapeArgument
AB 0B	privateData private
A0 09	kmePDFControl
30 07	pDFStart
30 05	device
80 03 323031	deviceIdentifier dialingNumbe : "201"

3.3. Escape Result

A20B0202 00933005 02013305 00

 Decoding

A2 0B	ROSE-ReturnResult
02 02 0093	InvokeId present : 147
30 05	result
02 01 33	opcode local : 51
05 00	noData

3.4. Private(PDF Status) Event

```
A12A0201 11020115 30225504 01210000 A71AA018 A716A914 30123005 80033230
31300681 04030000 00010101
```



A1 2A	ROSE-Invoke
02 01 11	invokeId present : 17
02 01 15	opcode : 21
30 22	CSTAEventReportArgument
55 04 01210000	crossRefIdentifier `01210000`H
A7 1A	eventSpecificInfo
A0 18	vendorSpecEvents privateEvent
A7 16	privateData private
A9 14	kmePrivateEvent
30 12	pDFStatus
30 05	targetDevice
80 03 323031	deviceIdentifier dialingNumber "201"
30 06	originatingDevice
81 04 03000000	deviceIdentifier deviceNumber : 50331648
01 01 01	status TRUE

3.5. SetDisplay Request

```
A13A0202 00940202 01123030 30058003 32303180 01008101 00161643 686F6F73
6520313A 66697368 2C20323A 6D656174 2E7E09A1 07A605AB 030101FF
```



A1 3A	ROSE-Invoke
02 02 0094	invokeId present : 148
02 02 0112	opcode : 274
30 30	SetDisplayArgument
30 05	device
80 03 323031	deviceIdentifier dialingNumber : "201"
80 01 00	physicalBaseRowNumber 0
81 01 00	physicalBaseColumnNumber 0
16 16 43686F6F736520313A666973682C20323A6D6561742E	contentsOfDisplay : "Choose 1:fish, 2:meat."
7E 09	extensions
A1 07	privateData
A6 05	private
AB 03	kmeAdditionalData
01 01 FF	lockDisplay : TRUE

3.6. SetDisplay Result

A20C0202 00943006 02020112 0500

 Decoding

A2 0C	ROSE-ReturnResult
02 02 0094	involveId : 148
30 06	result
02 02 0112	opcode local : 274
05 00	noData

3.7. SetRingerStatus Request

A11A0202 00950202 01183010 30058003 32303104 01310A01 00810101

 Decoding

A1 1A	ROSE-Invoke
02 02 0095	invokeId present : 149
02 02 0118	opcode local : 280
30 10	SetRingerStatusArgument
30 05	device
80 03 323031	deviceIdentifier dialingNumber : "201"
04 01 31	ringer : '31'H
0A 01 00	ringMode ringing
81 01 01	ringPattern 1

3.8. SetRingerStatus Result

A20C0202 00953006 02020118 0500

 Decoding

A2 0C	ROSE-ReturnResult
02 02 0095	involveId : 149
30 06	result
02 02 0118	opcode local : 280
05 00	noData

3.9. ButtonPress Event

A1200201 14020115 30185504 01210000 A310A10E 63073005 80033230 31040102
1600

 Decoding

A1 20	ROSE-Invoke
02 01 14	invokeId present : 20
02 01 15	opcode local : 21
30 18	CSTAEventReportArgument
55 04 01210000	crossRefIdentifier : '01210000'H
A3 10	eventSpecificInfo
A1 0E	physicalDeviceFeatureEvents
63 07	buttonPress device
30 05	deviceIdentifier
80 03 323031	deviceIdentifier dialingNumber : "201"
04 01 02	button : '02'H
16 00	buttonLabel ""

3.10. SetRingerStatus Request

A11A0202 00960202 01183010 30058003 32303104 01310A01 01810101

 Decoding

A1 1A	ROSE-Invoke
02 02 0096	invokedId present : 150
02 02 0118	opcode local : 280
30 10	SetRingerStatusArgument
30 05	device
80 03 323031	deviceIdentifier dialingNumber : "201"
04 01 31	ringer '31'H
0A 01 01	ringMode noRinging
81 01 01	ringPattern 1

3.11. SetRingerStatus Result

A20C0202 00963006 02020118 0500



A2 0C	ROSE-ReturnResult
02 02 0096	involveId : 150
30 06	result
02 02 0118	opcode local : 280
05 00	noData

3.12. Escape(PDF Stop) Request

A1140202 00970201 33300BAB 09A10730 05800332 3031



A1 14	ROSE-Invoke
02 02 0097	invokedId present : 151
02 01 33	opcode local : 51
30 0B	EscapeArgument
AB 09	privateData private
A1 07	kmePDFControl
30 05	pDFStop
80 03 323031	deviceIdentifier dialingNumber : "201"

3.13. Escape Result

A20B0202 00973005 02013305 00



A2 0B	ROSE-ReturnResult
02 02 0097	InvodeId present : 151
30 05	result
02 01 33	opcode local : 51
05 00	noData

3.14. Private(PDF Status) Event

```
A12A0201 16020115 30225504 01210000 A71AA018 A716A914 30123005 80033230
31300681 04030000 00010100
```



A1 2A	ROSE-Invoke
02 01 16	invokeId present : 22
02 01 15	opcode local : 21
30 22	CSTAEventReportArgument
55 04 01210000	crossRefIdentifier '01210000'H
A7 1A	eventSpecificInfo
A0 18	venderSpecEvents privateEvent
A7 16	privateData private
A9 14	kmePrivateEvent
30 12	pDFStatus
30 05	targetDevice
80 03 323031	deviceIdentifier dialingNumber : "201"
30 06	originatingDevice
81 04 03000000	deviceIdentifier deviceNumber : 50331648
01 01 00	status FALSE