

# Pi-Vote Protocol Documentation

Pi-Vote Doc Generator, Pirate Party Switzerland

Stefan Thöni, Pirate Party Switzerland

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# 1 RPC Protocol

Pi-Vote uses an Remote Procedure Call protocol over TCP. To establish communication the client opens a TCP connection to the server. All action is initiated by the client sending a request. The server processes these request and answers each one with a response.

## 1.1 Messages

Both request and response are messages which use a common transmission format.

Part	Type	Usage
Length	Int32	Contains the length of the following data.
Data	Byte[]	Contains the serialized message data.

## 1.2 Example

Example of a keep alive request.

Hex bytes	Comment
37 00 00 00	Length of the following data.
22 50 69 72 61 74 65 2e 50 69 56 6f 74 65 2e 52 70 63 2e 4b 65 65 70 41 6c 69 76 65 52 65 71 75 65 73 74	String 'Pirate.PiVote.Rpc.KeepAliveRequest' in UTF8 with prefixed length.
10 00 00 00 09 35 5d d3 9a b9 8a 41 96 e0 41 18 82 a5 85 90	Request Guid as 16 bytes with prefixed length.

And the corresponding keep alive response:

Hex bytes	Comment
39 00 00 00	Length of the following data.
23 50 69 72 61 74 65 2e 50 69 56 6f 74 65 2e 52 70 63 2e 4b 65 65 70 41 6c 69 76 65 52 65 73 70 6f 6e 73 65	String 'Pirate.PiVote.Rpc.KeepAliveResponse' in UTF8 with prefixed length.
10 00 00 00 09 35 5d d3 9a b9 8a 41 96 e0 41 18 82 a5 85 90	Request Guid as 16 bytes with prefixed length.
01	Boolean specifying that no exception occurred in execution.

## 2 Types

The following type formats are used for messages and other containers contained in messages.

### 2.1 Basic Types

The following basic types are used throughout Pi-Vote.

<b>Type</b> <b>Serialize</b>	Emil.GMP.BigInt Arbitrary-sized integer as specified by GNU Multiprecision Library written as Byte[]
<b>Type</b> <b>Short</b> <b>Serialize</b>	Pirate.PiVote.MultiLanguageString MultiLanguageString Number of language entries as Int32 followed by each entry as Language as Int32 and String text
<b>Type</b> <b>Short</b> <b>Serialize</b>	Pirate.PiVote.PiException PiException Exception code as Int32 followed by String message.
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Boolean Boolean 1 byte boolean written as 0 when false and 1 when true
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Byte Byte Just one byte
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Byte[] Byte[] UInt32 length followed by the individual bytes.
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.DateTime DateTime Number of 100-nanosecond intervals that have elapsed since 12:00:00 midnight, January 1, 0001 written as Int64
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Double Double 8 byte floating point written as per IEEE 754
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Guid Guid 16 byte Globally Unique Identifier written as Byte[]
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Int32 Int32 4 byte signed integer written in little endian format
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Int64 Int64 8 byte signed integer written in little endian format
<b>Type</b> <b>Short</b> <b>Serialize</b>	System.Single Single 4 byte floating point written as per IEEE 754

<b>Type</b>	System.String
<b>Short</b>	String
<b>Serialize</b>	UInt32 length followed by UTF8 encoded string data

  

<b>Type</b>	System.UInt32
<b>Short</b>	UInt32
<b>Serialize</b>	4 byte unsigned integer written in little endian format

  

<b>Type</b>	System.UInt64
<b>Short</b>	UInt64
<b>Serialize</b>	8 byte unsigned integer written in little endian format

## 2.2 List Types

The following list types are used. They are all generic and can contain any number of items.

<b>Type</b>	System.Collections.Generic.Dictionary
<b>Short</b>	Collections.Generic.Dictionary
<b>Serialize</b>	Number of entries followed by the serialization of each key and value

<b>Type</b>	System.Collections.Generic.List
<b>Short</b>	Collections.Generic.List
<b>Serialize</b>	Number of entries followed by the serialization of each entry

## 2.3 Enumerations

The following enumerations are used. The values and their names are specified below.

<b>Type</b>	Pirate.PiVote.Crypto.CertificateAttributeName	
<b>Short</b>	Crypto.CertificateAttributeName	
<b>Comment</b>	Name of the certificate attribute.	
<b>Values</b>	None	0
	GroupId	1
	Language	2

<b>Type</b>	Pirate.PiVote.Crypto.PrivateKeyStatus	
<b>Short</b>	Crypto.PrivateKeyStatus	
<b>Comment</b>	Status of a private key.	
<b>Values</b>	Unavailable	0
	Unencrypted	1
	Encrypted	2
	Decrypted	3

<b>Type</b>	Pirate.PiVote.Crypto.SignatureResponseStatus	
<b>Short</b>	Crypto.SignatureResponseStatus	
<b>Comment</b>	Status of the signature response.	
<b>Values</b>	Unknown	0
	Pending	1
	Accepted	2
	Declined	3

<b>Type</b>	Pirate.PiVote.Crypto.VotingStatus	
<b>Short</b>	Crypto.VotingStatus	
<b>Comment</b>	Status of the voting procedure.	
<b>Values</b>	New	0
	Sharing	1
	Voting	2
	Aborted	3
	Ready	4
	Deciphering	5
	Finished	6
	Offline	7

<b>Type</b>	Pirate.PiVote.ExceptionCode	
<b>Short</b>	ExceptionCode	
<b>Comment</b>	Codes for identifying exceptions.	
<b>Values</b>	Unknown	0
	ArgumentNull	1
	ArgumentOutOfRange	2
	BadSerializableFormat	3
	InvalidCertificate	4
	WrongStatusForOperation	5
	RequestSignatureInvalid	6
	NoAuthorizedAdmin	7
	BadVotingMaterial	8
	InvalidSignature	9
	InvalidSignatureRequest	10
	ServerCertificateInvalid	11
	CanceledByUser	12

AuthorityCountOutOfRange	1000001
TheresholdOutOfRange	1000002
OptionCountOutOfRange	1000003
MaxVotaOutOfRange	1000004
OptionCountMismatch	1000005
PIsNoPrime	1000006
PIsNoSafePrime	1000007
QIsNoPrime	1000008
AuthorityCountMismatch	1000009
AuthorityInvalid	1000010
NoVotingWithId	2000001
NoAuthorityWithCertificate	3000001
AlreadyVoted	4000001
VoteSignatureNotValid	4000002
NoVoterCertificate	4000003
InvalidVoteReceipt	4000004
BadGroupIdInCertificate	4000005
InvalidEnvelope	4000006
InvalidEnvelopeBadDateTime	4000007
InvalidEnvelopeBadVoterId	4000008
InvalidEnvelopeBadBallotCount	4000009
InvalidEnvelopeBadProofCount	4000010
InvalidEnvelopeBadVoteCount	4000011
SignatureRequestInvalid	5000001
SignatureRequestResponded	5000002
SignatureRequestNotFound	5000003
SignatureResponseNotFromCA	6000001
NoAuthorizedAuthority	7000001
AlreadyEnoughAuthorities	7000002
AuthorityAlreadyInVoting	7000003
AuthorityHasAlreadyDeposited	7000004
PartialDecipherBadSignature	8000001
PartialDecipherBadEnvelopeCount	8000002
PartialDecipherBadEnvelopeHash	8000003
ShareResponseBadSignature	9000001
ShareResponseWrongAuthority	9000002
ShareResponseNotAccepted	9000003
ShareResponseParametersDontMatch	9000004
CommandNotFromAdmin	19000001
CommandNotAllowedInStatus	19000002

<b>Type</b>	Pirate.PiVote.Language
<b>Short</b>	Language
<b>Comment</b>	Language of the interface and texts.
<b>Values</b>	English 0 German 1 French 2 Italien 3

<b>Type</b>	Pirate.PiVote.Rpc.VoteReceiptStatus
<b>Short</b>	Rpc.VoteReceiptStatus
<b>Comment</b>	Status of a vote receipt to check.
<b>Values</b>	NotFound 0 FoundBad 1





## 2.4 Objects

The following composite types are used. They inherit their fields from one another.

<b>Type Name</b>	Pirate.PiVote.Crypto.AdminCertificate
<b>Short Name</b>	Crypto.AdminCertificate
<b>Inherits</b>	Crypto.Certificate
<b>Comment</b>	Certificate of a voting administrator.
<b>Field Type</b>	String
<b>Field Name</b>	FullName
<b>Comment</b>	Full name of the administrator.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.AllShareParts
<b>Short Name</b>	Crypto.AllShareParts
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Assembly of all share parts from all authorities.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting procedure.
<b>Field Type</b>	Collections.Generic.List[Crypto.Signed[Crypto.SharePart]]
<b>Field Name</b>	ShareParts
<b>Comment</b>	Share parts from all authorities.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.AuthorityCertificate
<b>Short Name</b>	Crypto.AuthorityCertificate
<b>Inherits</b>	Crypto.Certificate
<b>Comment</b>	Certificate of a voting authority.
<b>Field Type</b>	String
<b>Field Name</b>	FullName
<b>Comment</b>	Full name of the authority.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.AuthorityList
<b>Short Name</b>	Crypto.AuthorityList
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	List of all authorities in the voting procedure.
<b>Field Type</b>	Int32
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting procedure.
<b>Field Type</b>	Collections.Generic.List[Crypto.Certificate]
<b>Field Name</b>	Authorities
<b>Comment</b>	List of all authorities in the voting procedure.
<b>Field Type</b>	Collections.Generic.List[Crypto.Certificate]
<b>Field Name</b>	Certificates
<b>Comment</b>	Intermediate certificates.
<b>Field Type</b>	Collections.Generic.List[Crypto.Signed[Crypto.RevocationList]]
<b>Field Name</b>	RevocationLists
<b>Comment</b>	Certificate revocation list for CAs.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.BadShareProof
<b>Short Name</b>	Crypto.BadShareProof
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Proof of a bad sharing.
<b>Field Type</b>	Int32
<b>Field Name</b>	ComplainingAuthorityIndex
<b>Comment</b>	Index of the complaining authority.

<b>Field Type</b>	Crypto.CertificateStorage
<b>Field Name</b>	CertificateStorage
<b>Comment</b>	Certificate storage.
<b>Field Type</b>	Crypto.Signed[Crypto.VotingParameters]
<b>Field Name</b>	SignedParameters
<b>Comment</b>	Signed voting parameters.
<b>Field Type</b>	Crypto.AllShareParts
<b>Field Name</b>	AllShareParts
<b>Comment</b>	All share parts.
<b>Field Type</b>	Collections.Generic.Dictionary[Int32, Crypto.TrapDoor]
<b>Field Name</b>	TrapDoors
<b>Comment</b>	Trap doors.
<b>Field Type</b>	Collections.Generic.Dictionary[Int32, Crypto.Certificate]
<b>Field Name</b>	Authorities
<b>Comment</b>	Involved authorities.

<b>Type Name</b>	Pirate.PiVote.Crypto.Ballot
<b>Short Name</b>	Crypto.Ballot
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Container for all votes from a voter.
<b>Field Type</b>	Collections.Generic.List[Crypto.Vote]
<b>Field Name</b>	Votes
<b>Comment</b>	Votes for each option.
<b>Field Type</b>	Collections.Generic.List[Crypto.Proof]
<b>Field Name</b>	SumProves
<b>Comment</b>	Proofs of sum of votes cast.

<b>Type Name</b>	Pirate.PiVote.Crypto.BaseParameters
<b>Short Name</b>	Crypto.BaseParameters
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Base for the voting parameters.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	P
<b>Comment</b>	Safe Prime.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	Q
<b>Comment</b>	Prime.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	G
<b>Comment</b>	Order Q element of $Z_p^*$ .
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	F
<b>Comment</b>	Element of $jG_i$ .
<b>Field Type</b>	Int32
<b>Field Name</b>	Thereshold
<b>Comment</b>	Number of adversaries that can be tolerated.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityCount
<b>Comment</b>	Number of authorities.
<b>Field Type</b>	Int32
<b>Field Name</b>	ProofCount
<b>Comment</b>	Number of proves required to proof a single fact.

<b>Field Type</b>	Collections.Generic.List[ <code>Crypto.Question</code> ]
<b>Field Name</b>	Questions
<b>Comment</b>	Questions in the voting.

<b>Type Name</b>	Pirate.PiVote.Crypto.BooleanCertificateAttribute
<b>Short Name</b>	Crypto.BooleanCertificateAttribute
<b>Inherits</b>	Crypto.CertificateAttribute[TValue]
<b>Comment</b>	Boolean attribute of certificate.

<b>Type Name</b>	Pirate.PiVote.Crypto.CACertificate
<b>Short Name</b>	Crypto.CACertificate
<b>Inherits</b>	Crypto.Certificate
<b>Comment</b>	Certificate of a certificate authority.
<b>Field Type</b>	String
<b>Field Name</b>	FullName
<b>Comment</b>	Full name of the certificate authority.

<b>Type Name</b>	Pirate.PiVote.Crypto.Certificate
<b>Short Name</b>	Crypto.Certificate
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Certificate of identity.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	MagicTypeConstant
<b>Comment</b>	The magic certificate type.
<b>Field Type</b>	Guid
<b>Field Name</b>	Id
<b>Comment</b>	Id of the certificate.
<b>Field Type</b>	DateTime
<b>Field Name</b>	CreationDate
<b>Comment</b>	Date of creation of this certificate.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	PublicKey
<b>Comment</b>	Public key of the certificate.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	SelfSignature
<b>Comment</b>	Signature from the certificate itself.
<b>Field Type</b>	Collections.Generic.List[ <code>Crypto.CertificateAttribute</code> ]
<b>Field Name</b>	Attributes
<b>Comment</b>	Attributes of the certificate.
<b>Field Type</b>	Collections.Generic.List[ <code>Crypto.Signature</code> ]
<b>Field Name</b>	Signatures
<b>Comment</b>	Signatures affixed to the certificate.
<b>Field Type</b>	Crypto.PrivateKeyStatus
<b>Field Name</b>	PrivateKeyStatus
<b>Comment</b>	Status of the private key. Saved as Encrypted even when Decrypted.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	PrivateKeyData
<b>Comment</b>	Data of the private key, either encrypted or unencrypted.
<b>Condition</b>	PrivateKeyStatus is not Unavailable.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	PrivateKeySalt
<b>Comment</b>	Salt used in encryption of the private key.

<b>Condition</b>	PrivateKeyStatus is Encrypted or Decrypted.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	PassphraseSalt
<b>Comment</b>	Salt used to strengthen the passphrase.
<b>Condition</b>	PrivateKeyStatus is Encrypted or Decrypted.

<b>Type Name</b>	Pirate.PiVote.Crypto.CertificateAttribute
<b>Short Name</b>	Crypto.CertificateAttribute
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Attribute of a certificate.
<b>Field Type</b>	Crypto.CertificateAttributeName
<b>Field Name</b>	Name
<b>Comment</b>	Name of the certificate attribute.

<b>Type Name</b>	Pirate.PiVote.Crypto.CertificateAttribute[TValue]
<b>Short Name</b>	Crypto.CertificateAttribute[TValue]
<b>Inherits</b>	Crypto.CertificateAttribute
<b>Comment</b>	Attribute of a certificate.

<b>Type Name</b>	Pirate.PiVote.Crypto.CertificateAuthorityEntry
<b>Short Name</b>	Crypto.CertificateAuthorityEntry
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Certificate entry at a CA.
<b>Field Type</b>	Crypto.Secure[Crypto.SignatureRequest]
<b>Field Name</b>	Request
<b>Comment</b>	Request for signature.
<b>Field Type</b>	Crypto.Signed[Crypto.SignatureResponse]
<b>Field Name</b>	Response
<b>Comment</b>	Response to signature request.
<b>Field Type</b>	Boolean
<b>Field Name</b>	Revoked
<b>Comment</b>	Is this certificate revoked?

<b>Type Name</b>	Pirate.PiVote.Crypto.CertificateStorage
<b>Short Name</b>	Crypto.CertificateStorage
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Stores certificates for validation.
<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	RootCertificateIds
<b>Comment</b>	Ids of root certificates.
<b>Field Type</b>	Collections.Generic.List[Crypto.Certificate]
<b>Field Name</b>	Certificates
<b>Comment</b>	List of certificates.
<b>Field Type</b>	Collections.Generic.List[Crypto.RevocationList]
<b>Field Name</b>	RevocationLists
<b>Comment</b>	Certificate revocation lists for certificate authorities.
<b>Field Type</b>	Collections.Generic.List[Crypto.Signed[Crypto.RevocationList]]
<b>Field Name</b>	SignedRevocationLists
<b>Comment</b>	Signed certificate revocation lists for certificate authorities.

<b>Type Name</b>	Pirate.PiVote.Crypto.Encrypted
<b>Short Name</b>	Crypto.Encrypted
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Encrypted serializable object.

<b>Field Type</b>	Guid
<b>Field Name</b>	ReceiverId
<b>Comment</b>	Id of the intended receiver.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	Data
<b>Comment</b>	Encrypted data of serializable object.
<b>Type Name</b>	Pirate.PiVote.Crypto.Encrypted[TValue]
<b>Short Name</b>	Crypto.Encrypted[TValue]
<b>Inherits</b>	Crypto.Encrypted
<b>Comment</b>	Encrypted serializable object.
<b>Type Name</b>	Pirate.PiVote.Crypto.Envelope
<b>Short Name</b>	Crypto.Envelope
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Container for a ballot.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting procedure.
<b>Field Type</b>	Guid
<b>Field Name</b>	VoterId
<b>Comment</b>	Id of the voter.
<b>Field Type</b>	Collections.Generic.List[Crypto.Ballot]
<b>Field Name</b>	Ballots
<b>Comment</b>	Casted ballot.
<b>Field Type</b>	DateTime
<b>Field Name</b>	Date
<b>Comment</b>	Date this envelope was formed.
<b>Type Name</b>	Pirate.PiVote.Crypto.Group
<b>Short Name</b>	Crypto.Group
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	An group which may organize votings.
<b>Field Type</b>	Int32
<b>Field Name</b>	Id
<b>Comment</b>	Id of the group.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Name
<b>Comment</b>	Name of the group.
<b>Type Name</b>	Pirate.PiVote.Crypto.Int32CertificateAttribute
<b>Short Name</b>	Crypto.Int32CertificateAttribute
<b>Inherits</b>	Crypto.CertificateAttribute[TValue]
<b>Comment</b>	Integer attribute of certificate.
<b>Type Name</b>	Pirate.PiVote.Crypto.Option
<b>Short Name</b>	Crypto.Option
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	An option for which voters may vote.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Text
<b>Comment</b>	Text of option.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Description

<b>Comment</b>	Description of the option.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Url
<b>Comment</b>	Url of the discussion of the option.

<b>Type Name</b>	Pirate.PiVote.Crypto.PartialDecipher
<b>Short Name</b>	Crypto.PartialDecipher
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	A partial decipher of a vote from an authority.
<b>Field Type</b>	Int32
<b>Field Name</b>	QuestionIndex
<b>Comment</b>	Index of the question in question.
<b>Field Type</b>	Int32
<b>Field Name</b>	OptionIndex
<b>Comment</b>	Index of the option in question.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of the deciphering authority.
<b>Field Type</b>	Int32
<b>Field Name</b>	GroupIndex
<b>Comment</b>	Index of the partial decipher group.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	Value
<b>Comment</b>	Value of the partial decipher.

<b>Type Name</b>	Pirate.PiVote.Crypto.PartialDecipherList
<b>Short Name</b>	Crypto.PartialDecipherList
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	List of partial decipherers from an authority.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of voting procedure.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of issuing authority.
<b>Field Type</b>	Collections.Generic.List[Crypto.PartialDecipher]
<b>Field Name</b>	PartialDeciphers
<b>Comment</b>	Partial decipherers from authority.
<b>Field Type</b>	Int32
<b>Field Name</b>	EnvelopeCount
<b>Comment</b>	Number of envelopes that where partially deciphered.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	EnvelopeHash
<b>Comment</b>	Hash over all envelopes that where partially deciphered.
<b>Field Type</b>	DateTime
<b>Field Name</b>	Date
<b>Comment</b>	Date at which the partial decipher was created.

<b>Type Name</b>	Pirate.PiVote.Crypto.Polynomial
<b>Short Name</b>	Crypto.Polynomial
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Integer field polynomial.
<b>Field Type</b>	Collections.Generic.List[Emil.GMP.BigInt]
<b>Field Name</b>	Coefficients

<b>Comment</b>	Coefficients of the polynom.
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<b>Type Name</b>	Pirate.PiVote.Crypto.Proof
<b>Short Name</b>	Crypto.Proof
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Non-interactive zero knowledge proof that a vote sum is MaxVota.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	T0
<b>Comment</b>	Whitness.
<b>Field Type</b>	Int32
<b>Field Name</b>	C0
<b>Comment</b>	Challange.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	S0
<b>Comment</b>	Response.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.Question
<b>Short Name</b>	Crypto.Question
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	A question in a voting.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Text
<b>Comment</b>	Text of the question.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Description
<b>Comment</b>	Description or explanation of the question.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Url
<b>Comment</b>	Url of the discussion of the option.
<b>Field Type</b>	Int32
<b>Field Name</b>	MaxVota
<b>Comment</b>	Number of vota each voter may cast.
<b>Field Type</b>	Collections.Generic.List[Crypto.Option]
<b>Field Name</b>	Options
<b>Comment</b>	List of possible options for the voters.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.RangeProof
<b>Short Name</b>	Crypto.RangeProof
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Non-interactive zero knowledge proof that a vote is in range 0-1.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	T0
<b>Comment</b>	Witness for votum equals 0.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	T1
<b>Comment</b>	Witness for votum equals 1.
<b>Field Type</b>	Int32
<b>Field Name</b>	C
<b>Comment</b>	Or-Challenge.
<b>Field Type</b>	Int32
<b>Field Name</b>	C0
<b>Comment</b>	Challenge for vote equals 0.
<b>Field Type</b>	Int32

<b>Field Name</b>	C1
<b>Comment</b>	Challenge for vote equals 1.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	S0
<b>Comment</b>	Response for vote equals 0.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	S1
<b>Comment</b>	Response for vote equals 1.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.RevocationList
<b>Short Name</b>	Crypto.RevocationList
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Certificate revocation list.
<b>Field Type</b>	Guid
<b>Field Name</b>	IssuerId
<b>Comment</b>	Id of the issuer.
<b>Field Type</b>	DateTime
<b>Field Name</b>	ValidFrom
<b>Comment</b>	List valid from date.
<b>Field Type</b>	DateTime
<b>Field Name</b>	ValidUntil
<b>Comment</b>	List valid until date.
<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	RevokedCertificates
<b>Comment</b>	List of revoked certificates.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.Secure[TValue]
<b>Short Name</b>	Crypto.Secure[TValue]
<b>Inherits</b>	Crypto.Signed[TValue]
<b>Comment</b>	Authenticated and encrypted serializable object.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.ServerCertificate
<b>Short Name</b>	Crypto.ServerCertificate
<b>Inherits</b>	Crypto.Certificate
<b>Comment</b>	Certificate of a voting server.
<b>Field Type</b>	String
<b>Field Name</b>	FullName
<b>Comment</b>	Full name of the administrator.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.Share
<b>Short Name</b>	Crypto.Share
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Share from one authority given to another.
<b>Field Type</b>	Int32
<b>Field Name</b>	SourceAuthorityIndex
<b>Comment</b>	Index of issuing authority.
<b>Field Type</b>	Int32
<b>Field Name</b>	DestinationAuthorityIndex
<b>Comment</b>	Index of receiving authority.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	Value
<b>Comment</b>	Value of share.

  

<b>Type Name</b>	Pirate.PiVote.Crypto.SharePart
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<b>Short Name</b>	Crypto.SharePart
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Contains all the shares and verification values of one authority.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of the issuing authority.
<b>Field Type</b>	Collections.Generic.List[Crypto.Encrypted[Crypto.Share]]
<b>Field Name</b>	EncryptedShares
<b>Comment</b>	Encrypted shares for the other authorities.
<b>Field Type</b>	Collections.Generic.List[Crypto.VerificationValue]
<b>Field Name</b>	VerificationValues
<b>Comment</b>	Verification values for the shares.

<b>Type Name</b>	Pirate.PiVote.Crypto.ShareResponse
<b>Short Name</b>	Crypto.ShareResponse
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Response of an authority to the sharings.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting procedure.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of the issuing authority.
<b>Field Type</b>	Boolean
<b>Field Name</b>	AcceptShares
<b>Comment</b>	Does the authority accept all the shares?
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	PublicKeyPart
<b>Comment</b>	Public key part from that authority.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	VotingParametersHash
<b>Comment</b>	Hash over the signed voting parameters.

<b>Type Name</b>	Pirate.PiVote.Crypto.Signature
<b>Short Name</b>	Crypto.Signature
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	A signature to be fixed at a certificate.
<b>Field Type</b>	Guid
<b>Field Name</b>	SignerId
<b>Comment</b>	Certificate id of the signer.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	Data
<b>Comment</b>	Signature data.
<b>Field Type</b>	DateTime
<b>Field Name</b>	ValidFrom
<b>Comment</b>	This signature is valid from then on.
<b>Field Type</b>	DateTime
<b>Field Name</b>	ValidUntil
<b>Comment</b>	This signature is valid until then.

<b>Type Name</b>	Pirate.PiVote.Crypto.SignatureRequest
<b>Short Name</b>	Crypto.SignatureRequest
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Request for a signature by a CA.

<b>Field Type</b>	String
<b>Field Name</b>	FirstName
<b>Comment</b>	First name of requester.
<b>Field Type</b>	String
<b>Field Name</b>	FamilyName
<b>Comment</b>	Family name of requester.
<b>Field Type</b>	String
<b>Field Name</b>	EmailAddress
<b>Comment</b>	Email address of requester.

<b>Type Name</b>	Pirate.PiVote.Crypto.SignatureRequest2
<b>Short Name</b>	Crypto.SignatureRequest2
<b>Inherits</b>	Crypto.SignatureRequest
<b>Comment</b>	Request for a signature by a CA signed by another certificate.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	Signature
<b>Comment</b>	Signature from the signing certificate.
<b>Field Type</b>	Crypto.Certificate
<b>Field Name</b>	SigningCertificate
<b>Comment</b>	Signing certificate.

<b>Type Name</b>	Pirate.PiVote.Crypto.SignatureRequestInfo
<b>Short Name</b>	Crypto.SignatureRequestInfo
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Information that accompanies a request for a signature by a CA.
<b>Field Type</b>	String
<b>Field Name</b>	EmailAddress
<b>Comment</b>	Email address of requester.

<b>Type Name</b>	Pirate.PiVote.Crypto.SignatureResponse
<b>Short Name</b>	Crypto.SignatureResponse
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Response to a signature request.
<b>Field Type</b>	Guid
<b>Field Name</b>	SubjectId
<b>Comment</b>	Id of the subject of this signature request response.
<b>Field Type</b>	Crypto.SignatureResponseStatus
<b>Field Name</b>	Status
<b>Comment</b>	Status of the signature request.
<b>Field Type</b>	String
<b>Field Name</b>	Reason
<b>Comment</b>	Reason the request was declined or empty.
<b>Field Type</b>	Crypto.Signature
<b>Field Name</b>	Signature
<b>Comment</b>	Signature of CA if accepted.

<b>Type Name</b>	Pirate.PiVote.Crypto.Signed
<b>Short Name</b>	Crypto.Signed
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Signed serializable object.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	Data
<b>Comment</b>	Binary data of serializable object.
<b>Field Type</b>	Byte[]

<b>Field Name</b>	Signature
<b>Comment</b>	Signature.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	CertificateData
<b>Comment</b>	Binary data of the certificate.
<b>Type Name</b>	Pirate.PiVote.Crypto.Signed[TValue]
<b>Short Name</b>	Crypto.Signed[TValue]
<b>Inherits</b>	Crypto.Signed
<b>Comment</b>	Signed serializable object.
<b>Type Name</b>	Pirate.PiVote.Crypto.StringCertificateAttribute
<b>Short Name</b>	Crypto.StringCertificateAttribute
<b>Inherits</b>	Crypto.CertificateAttribute[TValue]
<b>Comment</b>	String attribute of certificate.
<b>Type Name</b>	Pirate.PiVote.Crypto.TrapDoor
<b>Short Name</b>	Crypto.TrapDoor
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	A trapdoor enabled encryption of data encrypted for some certificate without the private key.
<b>Field Type</b>	Guid
<b>Field Name</b>	IssuerId
<b>Comment</b>	Id of the issuer of this trapdoor.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	SymmetricKey
<b>Comment</b>	Symmetric key allowing decryption.
<b>Type Name</b>	Pirate.PiVote.Crypto.VerificationValue
<b>Short Name</b>	Crypto.VerificationValue
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Verification value from an authority used to check shares.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	Value
<b>Comment</b>	Value used to verify shares.
<b>Field Type</b>	Int32
<b>Field Name</b>	SourceAuthorityIndex
<b>Comment</b>	Index of the issuing authority.
<b>Type Name</b>	Pirate.PiVote.Crypto.Vote
<b>Short Name</b>	Crypto.Vote
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Elgamal encrypted vote.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	HalfKey
<b>Comment</b>	Diffie-Hellman halfkey.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	Ciphertext
<b>Comment</b>	Ciphertext.
<b>Field Type</b>	Emil.GMP.BigInt
<b>Field Name</b>	P
<b>Comment</b>	Prime number defining the modular arithmetic.
<b>Field Type</b>	Collections.Generic.List[Crypto.RangeProof]

<b>Field Name</b>	RangeProves
<b>Comment</b>	All range proves for this vote.

<b>Type Name</b>	Pirate.PiVote.Crypto.VoterCertificate
<b>Short Name</b>	Crypto.VoterCertificate
<b>Inherits</b>	Crypto.Certificate
<b>Comment</b>	Certificate for a voter.

<b>Type Name</b>	Pirate.PiVote.Crypto.VoteReceipt
<b>Short Name</b>	Crypto.VoteReceipt
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Receipt for a cast vote.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.
<b>Field Type</b>	Guid
<b>Field Name</b>	VoterId
<b>Comment</b>	Id of the voter.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	SignedEnvelopeHash
<b>Comment</b>	Hash of the signed envelope.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	VotingTitle
<b>Comment</b>	Title of the voting.

<b>Type Name</b>	Pirate.PiVote.Crypto.VotingMaterial
<b>Short Name</b>	Crypto.VotingMaterial
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	All things a voter needs to cast his vote.
<b>Field Type</b>	Crypto.Signed[Crypto.VotingParameters]
<b>Field Name</b>	Parameters
<b>Comment</b>	Defines voting procedure.
<b>Field Type</b>	Collections.Generic.List[Crypto.Signed[Crypto.ShareResponse]]
<b>Field Name</b>	PublicKeyParts
<b>Comment</b>	Responses that can be combined to a public key.
<b>Field Type</b>	Int32
<b>Field Name</b>	CastEnvelopeCount
<b>Comment</b>	Number of cast envelopes.

<b>Type Name</b>	Pirate.PiVote.Crypto.VotingParameters
<b>Short Name</b>	Crypto.VotingParameters
<b>Inherits</b>	Crypto.BaseParameters
<b>Comment</b>	Contains all parameters of a voting.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of this voting.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Title
<b>Comment</b>	Title of this voting.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	Description
<b>Comment</b>	Description of this voting.
<b>Field Type</b>	MultiLanguageString

<b>Field Name</b>	Url
<b>Comment</b>	Url of the discussion of the voting.
<b>Field Type</b>	DateTime
<b>Field Name</b>	VotingBeginDate
<b>Comment</b>	Date at which voting begins.
<b>Field Type</b>	DateTime
<b>Field Name</b>	VotingEndDate
<b>Comment</b>	Date a which voting ends.
<b>Field Type</b>	Int32
<b>Field Name</b>	GroupId
<b>Comment</b>	Id of the group in which the voting takes place.

<b>Type Name</b>	Pirate.PiVote.RemoteConfig
<b>Short Name</b>	RemoteConfig
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Config file for the voting server.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	SystemName
<b>Comment</b>	Name of the eVoting system.
<b>Field Type</b>	MultiLanguageString
<b>Field Name</b>	WelcomeMessage
<b>Comment</b>	Welcome message to users.
<b>Field Type</b>	Byte[]
<b>Field Name</b>	Image
<b>Comment</b>	Image file on the start wizard item.
<b>Field Type</b>	String
<b>Field Name</b>	Url
<b>Comment</b>	Url of the project.
<b>Field Type</b>	String
<b>Field Name</b>	UpdateVersion
<b>Comment</b>	The newest available version one could update to.
<b>Field Type</b>	String
<b>Field Name</b>	UpdateUrl
<b>Comment</b>	Url were one can get the update.

<b>Type Name</b>	Pirate.PiVote.Rpc.CreateVotingRequest
<b>Short Name</b>	Rpc.CreateVotingRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request creates a new voting.
<b>Field Type</b>	Crypto.Signed[Crypto.VotingParameters]
<b>Field Name</b>	VotingParameters
<b>Comment</b>	Parameters for the new voting.
<b>Field Type</b>	Collections.Generic.List[Crypto.AuthorityCertificate]
<b>Field Name</b>	Authorities
<b>Comment</b>	List of authorities to oversee the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.CreateVotingResponse
<b>Short Name</b>	Rpc.CreateVotingResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	Response to a voting creation RPC request.

<b>Type Name</b>	Pirate.PiVote.Rpc.DeleteVotingRequest
<b>Short Name</b>	Rpc.DeleteVotingRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]

<b>Comment</b>	RPC request creates a new voting.
<b>Field Type</b>	Crypto.Signed[Rpc.DeleteVotingRequest+Command]
<b>Field Name</b>	Command
<b>Comment</b>	Signed command to delete the voting.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.DeleteVotingRequest+Command
<b>Short Name</b>	Rpc.DeleteVotingRequest+Command
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Command to delete a voting.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting to delete.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.DeleteVotingResponse
<b>Short Name</b>	Rpc.DeleteVotingResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	Response to a voting creation RPC request.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.EchoRequest
<b>Short Name</b>	Rpc.EchoRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to echo.
<b>Field Type</b>	String
<b>Field Name</b>	Message
<b>Comment</b>	Message to echo.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.EchoResponse
<b>Short Name</b>	Rpc.EchoResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the echo.
<b>Field Type</b>	String
<b>Field Name</b>	Message
<b>Comment</b>	Echoed message.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.EndVotingRequest
<b>Short Name</b>	Rpc.EndVotingRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to end a voting procedure.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.EndVotingResponse
<b>Short Name</b>	Rpc.EndVotingResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	Response to a request for ending a voting.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAllSharesRequest
<b>Short Name</b>	Rpc.FetchAllSharesRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch all shares of a voting.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAllSharesResponse
<b>Short Name</b>	Rpc.FetchAllSharesResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	Response to a request for ending a voting.
<b>Field Type</b>	Crypto.AllShareParts
<b>Field Name</b>	AllShareParts
<b>Comment</b>	All shares of the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAuthorityCertificatesRequest
<b>Short Name</b>	Rpc.FetchAuthorityCertificatesRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch all valid authority certificates.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAuthorityCertificatesResponse
<b>Short Name</b>	Rpc.FetchAuthorityCertificatesResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to the request to fetch all valid authority certificates.
<b>Field Type</b>	Collections.Generic.List[Crypto.AuthorityCertificate]
<b>Field Name</b>	AuthorityCertificates
<b>Comment</b>	List of all valid authority certificates.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAuthorityListRequest
<b>Short Name</b>	Rpc.FetchAuthorityListRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch the list of authorities.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchAuthorityListResponse
<b>Short Name</b>	Rpc.FetchAuthorityListResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to a request to fetch the list of authorities.
<b>Field Type</b>	Crypto.AuthorityList
<b>Field Name</b>	AuthorityList
<b>Comment</b>	List of authorities for the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchCertificateStorageRequest
<b>Short Name</b>	Rpc.FetchCertificateStorageRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch the certificate storage.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchCertificateStorageResponse
<b>Short Name</b>	Rpc.FetchCertificateStorageResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the certificate storage.
<b>Field Type</b>	Crypto.CertificateStorage
<b>Field Name</b>	CertificateStorage
<b>Comment</b>	Certificate storage from server.
<b>Field Type</b>	Crypto.Certificate
<b>Field Name</b>	ServerCertificate
<b>Comment</b>	Certificate of the server.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchConfigRequest
<b>Short Name</b>	Rpc.FetchConfigRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch the config.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchConfigResponse
<b>Short Name</b>	Rpc.FetchConfigResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the config.
<b>Field Type</b>	RemoteConfig
<b>Field Name</b>	Config
<b>Comment</b>	Configuration for the client.
<b>Field Type</b>	Collections.Generic.List[Crypto.Group]
<b>Field Name</b>	Groups
<b>Comment</b>	List of voting groups on the server.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchEnvelopeCountRequest
<b>Short Name</b>	Rpc.FetchEnvelopeCountRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	Request to fetch the number of envelopes in a voting.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchEnvelopeCountResponse
<b>Short Name</b>	Rpc.FetchEnvelopeCountResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the number of envelopes in the voting.
<b>Field Type</b>	Int32
<b>Field Name</b>	EnvelopeCount
<b>Comment</b>	Number of envelopes in the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchEnvelopeRequest
<b>Short Name</b>	Rpc.FetchEnvelopeRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch an envelope.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.
<b>Field Type</b>	Int32
<b>Field Name</b>	EnvelopeIndex
<b>Comment</b>	Index of the envelope.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchEnvelopeResponse
<b>Short Name</b>	Rpc.FetchEnvelopeResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering an envelope.
<b>Field Type</b>	Crypto.Signed[Crypto.Envelope]
<b>Field Name</b>	Envelope
<b>Comment</b>	Signed envelope.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchParametersRequest
<b>Short Name</b>	Rpc.FetchParametersRequest



<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch voting parameters.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.
<b>Field Type</b>	Crypto.AuthorityCertificate
<b>Field Name</b>	Certificate
<b>Comment</b>	Certificate of the authorities.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchParametersResponse
<b>Short Name</b>	Rpc.FetchParametersResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to the request to fetch voting parameters.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of the authority.
<b>Field Type</b>	Crypto.Signed[Crypto.VotingParameters]
<b>Field Name</b>	VotingParameters
<b>Comment</b>	Parameters of the voting.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchPartialDecipherRequest
<b>Short Name</b>	Rpc.FetchPartialDecipherRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch a partial decipher.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.
<b>Field Type</b>	Int32
<b>Field Name</b>	AuthorityIndex
<b>Comment</b>	Index of the authority.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchPartialDecipherResponse
<b>Short Name</b>	Rpc.FetchPartialDecipherResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the partial deciphers.
<b>Field Type</b>	Crypto.Signed[Crypto.PartialDecipherList]
<b>Field Name</b>	PartialDecipherList
<b>Comment</b>	Signed list of partial deciphers.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureRequestListRequest
<b>Short Name</b>	Rpc.FetchSignatureRequestListRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch list signature requests.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureRequestListResponse
<b>Short Name</b>	Rpc.FetchSignatureRequestListResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering list of signature requests.
<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	SignatureRequestList
<b>Comment</b>	List of signature request ids.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureRequestRequest
<b>Short Name</b>	Rpc.FetchSignatureRequestRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]

<b>Comment</b>	RPC request to fetch a signature request.
<b>Field Type</b>	Guid
<b>Field Name</b>	SignatureRequestId
<b>Comment</b>	Id of the signature request.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureRequestResponse
<b>Short Name</b>	Rpc.FetchSignatureRequestResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the signature request.
<b>Field Type</b>	Crypto.Secure[Crypto.SignatureRequest]
<b>Field Name</b>	SecureSignatureRequest
<b>Comment</b>	Signature request signed and encrypted for the CA.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureResponseRequest
<b>Short Name</b>	Rpc.FetchSignatureResponseRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch a signature response.
<b>Field Type</b>	Guid
<b>Field Name</b>	CertificateId
<b>Comment</b>	Id of the certificate.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchSignatureResponseResponse
<b>Short Name</b>	Rpc.FetchSignatureResponseResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering a signature response.
<b>Field Type</b>	Crypto.SignatureResponseStatus
<b>Field Name</b>	Status
<b>Comment</b>	Status of the signature response.
<b>Field Type</b>	Crypto.Signed[Crypto.SignatureResponse]
<b>Field Name</b>	SignatureResponse
<b>Comment</b>	Signed signature response.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchVotingMaterialVoterRequest
<b>Short Name</b>	Rpc.FetchVotingMaterialVoterRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to fetch voting material and status.
<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	VotingIds
<b>Comment</b>	List of ids of the votings to get.

<b>Type Name</b>	Pirate.PiVote.Rpc.FetchVotingMaterialVoterResponse
<b>Short Name</b>	Rpc.FetchVotingMaterialVoterResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering voting material.
<b>Field Type</b>	Collections.Generic.List[Tuple[Crypto.VotingMaterial, Crypto.VotingStatus, Collections.Generic.List[Guid]]]
<b>Field Name</b>	VotingMaterials
<b>Comment</b>	List of tuples of voting material, status, and authorities.

<b>Type Name</b>	Pirate.PiVote.Rpc.KeepAliveRequest
<b>Short Name</b>	Rpc.KeepAliveRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC keep alive request.

<b>Type Name</b>	Pirate.PiVote.Rpc.KeepAliveResponse
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<b>Short Name</b>	Rpc.KeepAliveResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC keep alive response.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.ListVotingIdsRequest
<b>Short Name</b>	Rpc.ListVotingIdsRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to list voting ids.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.ListVotingIdsResponse
<b>Short Name</b>	Rpc.ListVotingIdsResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the list of voting ids.

<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	VotingIds
<b>Comment</b>	List of voting ids.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushCertificateStorageRequest
<b>Short Name</b>	Rpc.PushCertificateStorageRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to add a certificate storage to the server's data.

<b>Field Type</b>	Crypto.CertificateStorage
<b>Field Name</b>	CertificateStorage
<b>Comment</b>	Certificate storage to add.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushCertificateStorageResponse
<b>Short Name</b>	Rpc.PushCertificateStorageResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to push of certificate storage.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushEnvelopeRequest
<b>Short Name</b>	Rpc.PushEnvelopeRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to push an envelope.

<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

<b>Field Type</b>	Crypto.Signed[Crypto.Envelope]
<b>Field Name</b>	SignedEnvelope
<b>Comment</b>	Signed envelope.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushEnvelopeResponse
<b>Short Name</b>	Rpc.PushEnvelopeResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to push of envelope.

<b>Field Type</b>	Crypto.Signed[Crypto.VoteReceipt]
<b>Field Name</b>	VoteReceipt
<b>Comment</b>	Receipt of the cast vote or null in case of exception.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushPartialDecipherRequest
<b>Short Name</b>	Rpc.PushPartialDecipherRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to push a partial decipher.

<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId

<b>Comment</b>	Id of the voting.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Crypto.Signed[Crypto.PartialDecipherList] SignedPartialDecipherList Signed list of partial deciphers.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushPartialDecipherResponse Rpc.PushPartialDecipherResponse Rpc.RpcResponse RPC response to push of partial decipher.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushShareResponseRequest Rpc.PushShareResponseRequest Rpc.RpcRequest[TRpcServer, TResponse] RPC request to push share response.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Guid VotingId Id of the voting.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Crypto.Signed[Crypto.ShareResponse] SignedShareResponse Signed share response.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushShareResponseResponse Rpc.PushShareResponseResponse Rpc.RpcResponse RPC response to push of share response.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushSharesRequest Rpc.PushSharesRequest Rpc.RpcRequest[TRpcServer, TResponse] RPC request to push share.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Guid VotingId Id of the voting.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Crypto.Signed[Crypto.SharePart] SignedSharePart Signed share part.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushSharesResponse Rpc.PushSharesResponse Rpc.RpcResponse RPC response to push of share part.
<b>Type Name</b> <b>Short Name</b> <b>Inherits</b> <b>Comment</b>	Pirate.PiVote.Rpc.PushSignatureRequestRequest Rpc.PushSignatureRequestRequest Rpc.RpcRequest[TRpcServer, TResponse] RPC request to push of signature request.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Crypto.Secure[Crypto.SignatureRequest] SignatureRequest Signature request signed and encrypted for the CA.
<b>Field Type</b> <b>Field Name</b> <b>Comment</b>	Crypto.Secure[Crypto.SignatureRequestInfo] SignatureRequestInfo Signature request signed and encrypted for the server.
<b>Type Name</b> <b>Short Name</b>	Pirate.PiVote.Rpc.PushSignatureRequestResponse Rpc.PushSignatureRequestResponse

<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to push of signature request.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushSignatureResponseRequest
<b>Short Name</b>	Rpc.PushSignatureResponseRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to push signature response.
<b>Field Type</b>	Crypto.Signed[Crypto.SignatureResponse]
<b>Field Name</b>	SignatureResponse
<b>Comment</b>	Signed signature response.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.PushSignatureResponseResponse
<b>Short Name</b>	Rpc.PushSignatureResponseResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response to push of signature response.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.RpcMessage
<b>Short Name</b>	Rpc.RpcMessage
<b>Inherits</b>	Serialization.Serializable
<b>Comment</b>	Message to or from RPC server.
<b>Field Type</b>	Guid
<b>Field Name</b>	RequestId
<b>Comment</b>	Id of the request.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.RpcRequest
<b>Short Name</b>	Rpc.RpcRequest
<b>Inherits</b>	Rpc.RpcMessage
<b>Comment</b>	Request message to the RPC server.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.RpcRequest[TRpcServer, TResponse]
<b>Short Name</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Inherits</b>	Rpc.RpcRequest
<b>Comment</b>	Request message to the RPC server.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.RpcRequest[TRpcServer]
<b>Short Name</b>	Rpc.RpcRequest[TRpcServer]
<b>Inherits</b>	Rpc.RpcMessage
<b>Comment</b>	Request message to the RPC server.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.RpcResponse
<b>Short Name</b>	Rpc.RpcResponse
<b>Inherits</b>	Rpc.RpcMessage
<b>Comment</b>	RPC response message.
<b>Field Type</b>	PiException
<b>Field Name</b>	Exception
<b>Comment</b>	Exception throw by the RPC call if any.

  

<b>Type Name</b>	Pirate.PiVote.Rpc.VotingStatusRequest
<b>Short Name</b>	Rpc.VotingStatusRequest
<b>Inherits</b>	Rpc.RpcRequest[TRpcServer, TResponse]
<b>Comment</b>	RPC request to get voting status.
<b>Field Type</b>	Guid
<b>Field Name</b>	VotingId
<b>Comment</b>	Id of the voting.

<b>Type Name</b>	Pirate.PiVote.Rpc.VotingStatusResponse
<b>Short Name</b>	Rpc.VotingStatusResponse
<b>Inherits</b>	Rpc.RpcResponse
<b>Comment</b>	RPC response delivering the voting status.
<b>Field Type</b>	Crypto.VotingStatus
<b>Field Name</b>	VotingStatus
<b>Comment</b>	Status of the voting.
<b>Field Type</b>	Collections.Generic.List[Guid]
<b>Field Name</b>	AuthoritiesDone
<b>Comment</b>	List of authorities that have done the current step.
<b>Type Name</b>	Pirate.PiVote.Serialization.Serializable
<b>Short Name</b>	Serialization.Serializable
<b>Comment</b>	Base object of all serializable objects.