

iSNS CLI specification
version 0.7

<i>Version</i>	<i>Date</i>	<i>Comments</i>	<i>Author</i>
01 – 0.4		Early internal versions	John Forte / Victor Li
0.5	9/5/2006	UIRB review version	Victor Li
0.6	12/1/2006	Incorporated UIRB comments	Hyon Kim
0.7	12/05/2006	Changed list-config to show-config per UIRB recommendation	Hyon Kim

1 Introduction

1.1 Purpose

This document provides a description of the administrative interfaces for the iSNS product. It is intended for developers and document writers.

1.2 Scope

The design includes CLI support for iSNS. A GUI management station will be planned as a phase 2 project and the detail design is not included in this document. This document does not include iSNS design, too. Please refer to the iSNS design document (1) for iSNS server design details.

1.3 References

1) iSNS design document:

<http://kungfu.prc.sun.com/export/home1/victor/isns/iSNS-ARC-FuncSpec.html>

1.4 Terms

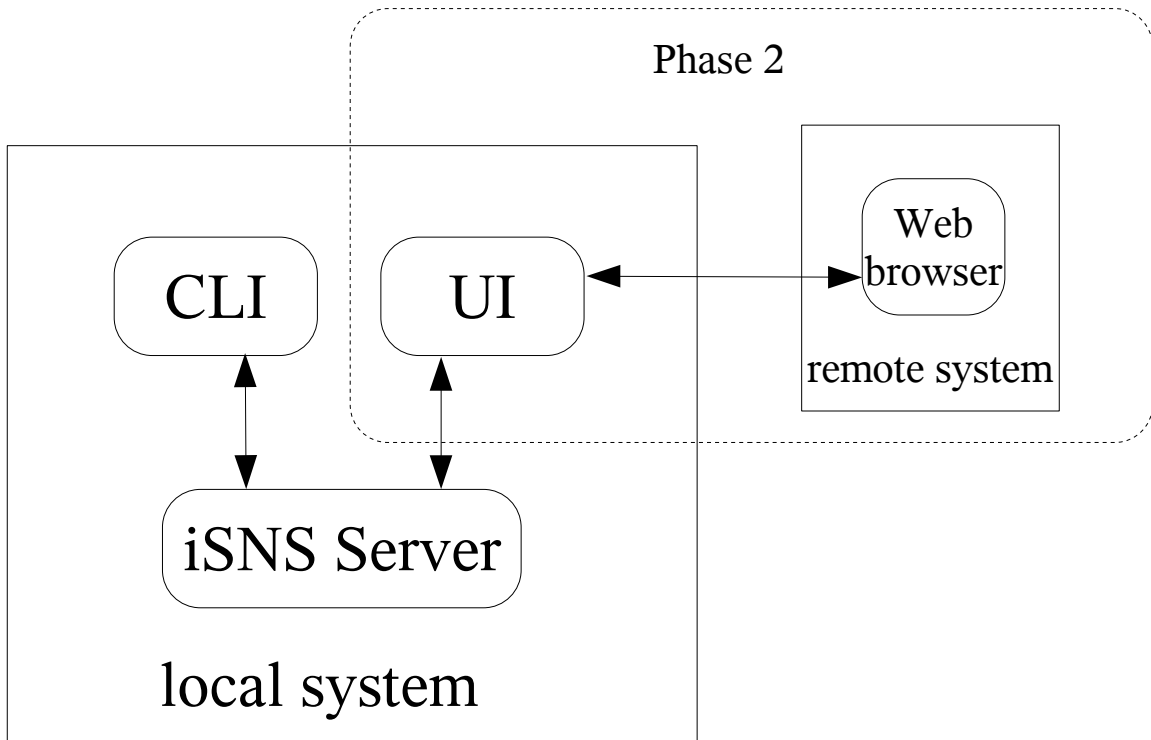
<i>Term</i>	<i>Definition</i>
iSNS	Internet Storage Name Service described in RFC 4171.

2 System Overview

2.1 Description

The CLI can be executed from any command shell running on the same system as the iSNS server. Each CLI command accomplishes one of iSNS server management function. The format of CLI will follow CLIP.

2.2 Block Diagram



3 Detailed System Design – Command Line Interfaces

3.1 Command Synopsis

`isnsadm subcommand [options] [<operand>]`

The subcommand includes a hyphen-separated object name that it acts on.

Table 1 lists all subcommands and their descriptions.

<i>Subcommand</i>	<i>Description</i>
list-dd	lists discovery domain objects based on operand supplied or all items for the discovery domain object if no operand is supplied.
list-dd-set	lists discovery domain set objects based on operand supplied or all items for the discovery domain set object if no operand is supplied.
list-node	lists node objects based on operand supplied or all items for the node object if no operand is supplied.
show-config	lists administrative setting information for the server.
create-dd, create-dd-set	Creates an instance of dd an object.
delete-dd, delete-dd-set	Deletes an instance of an object.
add-dd	Adds a domain to a dd-set object.
remove-dd	Removes a domain from a dd-set object
add-node	Adds a node to a dd object.
remove-node	Removes a node from a dd object.
enable-dd-set	Enables an instance of an object.
disable-dd-set	Disables an instance of an object.

Table 1 Subcommands

Table 2 lists all objects and their descriptions.

<i>object</i>	<i>Description</i>
node	iSCSI node object which is either an iSCSI target or an iSCSI initiator.
dd	Discovery Domain. This is a container for iSCSI targets and iSCSI initiators. A discovery domain with the name of 'DEFAULT' will always exist and will represent a reserved name. The DD name is a UTF-8 string with a maximum of 256 bytes.
dd-set	Discovery Domain Set. This is a container for discovery domains. A discovery domain set with the name of 'DEFAULT' will always exist and will represent a reserved name. The DD set name is a UTF-8 string with a maximum of 256 bytes.
config	Represent a set of administrative setting of iSNS server. Only one instance of the config object exist.

Table 2 objects

Table 3 lists all operands and their descriptions.

<i>Operand</i>	<i>Description</i>
iscsi-node-name	iSCSI target or iSCSI initiator symbolic name. The name is a UTF-8 string with a maximum of 224 bytes.
discovery-domain-name	Discovery Domain symbolic name. The name is a UTF-8 string with a maximum of 256 bytes.
discovery-domain-set-name	Discovery Domain Set symbolic name. The name is a UTF-8 string with a maximum of 256 bytes.

Table 3 operands

Table 4 lists all generic options.

<i>Option</i>	<i>Description</i>
-V, --version	Displays version information. Stops interpretation of subsequent arguments.
-, --help	Displays context help. Stops interpretation of subsequent arguments.

Table 4: Generic Options

3.2 Subcommand description

3.2.1 list-node

```
isnsadm list-node [options] [<iscsi-node-name>, ...]
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-t, --target	none	Used to filter the list to display only iSCSI target nodes.
-i, --initiator	none	Used to filter the list to display only iSCSI initiator nodes.
-v, --verbose	none	Verbose output for the node information which will display the discovery domain(s) the node is a member, the entity information of the node and the portal information of the node.

DESCRIPTION

This will list node information with the iSNS server. It lists all nodes which are currently registered with the iSNS server if no operand is specified.

RESPONSE FORMAT:

```
iSCSI Name: <iscsi-node-name>  
  Alias: <iscsi-node-alias>|-  
  Type: Initiator|Target|-
```

with -v specified:

```
  Entity: <entity-identifier>  
  Portal: <IP address:port>  
    Portal Group: <PGT>  
  Portal: <IP address:port>  
    Portal Group: <PGT>
```

.

.

.

```
  Portal: <IP address:port>  
    Portal Group: <PGT>
```

```
  DD: <dd-name>|-
```

if more than one node are available:

```
iSCSI Name: <iscsi-node-name>  
  Alias: <iscsi-node-alias>|-  
  Type: Initiator|Target|-
```

.

.

.

ERROR MESSAGES:

Unknown node <iscsi-node-name>. – if the node does not exist in the server repository.

3.2.2 list-dd

```
isnsadm list-dd [options] [<discovery-domain-name>,  
...]
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-v, --verbose	none	Used to list the member contents of the discovery domain.

DESCRIPTION

This will list the discovery domain(s) within the server. The -v option will show all nodes within the discovery domain. It lists all of discovery domains within the server if no operand is specified.

RESPONSE FORMAT:

```
DD Name: <discovery-domain-name>  
      DD set(s): <discovery-domain-set-name>, ... |  
                None
```

with -v specified:

```
iSCSI Name: <iscsi-node-name>  
iSCSI Name: <iscsi-node-name>  
.  
.  
.  
iSCSI Name: <iscsi-node-name>
```

ERROR MESSAGES:

Discovery domain <discovery-domain-name> not found. - if the discovery domain <discovery-domain-name> is not in the server.

3.2.3 list-dd-set

```
isnsadm list-dd-set [options] [<discovery-domain-set-name>, ...]
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-v, --verbose	none	Used to list the member contents of the discovery domain set.

DESCRIPTION

This will list the discovery domain sets, both enabled and disabled within the server. The -v option will show all discovery domains within the discovery domain set. It lists all of discovery domain sets if no operand is specified.

RESPONSE FORMAT:

```
DD Set Name: <discovery-domain-set-name>  
State: enabled|disabled
```

with -v specified:

```
DD Name: <discovery-domain-name>  
DD Name: <discovery-domain-name>  
.  
.  
.  
DD Name: <discovery-domain-name>
```

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. - if the discovery domain set <discovery-domain-set-name> is not in the server.

3.2.4 show-config

```
isnsadm show-config
```

DESCRIPTION

This will display iSNS server administrative settings.

RESPONSE FORMAT:

Entity Satus Inquiry Non-Response Threshold	3
Management State Change Notification Enabled	yes
Default Discovery Domain/Discovery Domain Set Enabled	no
Node type for Discovery Domain/Domain Set Modification	control node
Authorized Control Node Names	-
Data Store Location	/etc/isns/isns.xml

ERROR MESSAGES:

Unable to get the configuration information.

3.2.5 create-dd

```
isnsadm create-dd <discovery-domain-name>
```

DESCRIPTION

This will create a discovery domain with the specified name.

ERROR MESSAGES:

Invalid discovery domain name. - if the <discovery-domain-name> is invalid.

Discovery domain <discovery-domain-name> already exists. - if the discovery domain <discovery-domain-name> exists already in the server.

3.2.6 create-dd-set

```
isnsadm create-dd-set <discovery-domain-set-name>
```

DESCRIPTION

This will create a discovery domain set with the specified name.

ERROR MESSAGES:

Invalid discovery domain set name. - if the <discovery-domain-set-name> is invalid.

Discovery domain set <discovery-domain-set-name> already exists. - if the discovery domain set <discovery-domain-set-name> exists already in the server.

3.2.7 delete-dd

```
isnsadm delete-dd <discvoery-domain-name>
```

DESCRIPTION

This will delete a discovery domain with the specified name.

ERROR MESSAGES:

Discovery domain <discvoery-domain-name> not found. -
if the discovery domain <discovery-domain-name> is not in the server.

3.2.8 delete-dd-set

```
isnsadm delete-dd-set <discovery-domain-set-name>
```

DESCRIPTION

This will delete a discovery domain set with the specified name.

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. – if the discovery domain set <discovery-domain-set-name> is not in the server.

3.2.9 enable-dd-set

```
isnsadm enable-dd-set <discovery-domain-set-name>
```

DESCRIPTION

This will enable a discovery domain set with the specified name.

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. – if the discovery domain set <discovery-domain-set-name> is not in the server.

3.2.10 disable-dd-set

```
isnsadm disable-dd-set <discovery-domain-set-name>
```

DESCRIPTION

This will disable a discovery domain set with the specified name.

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. – if the discovery domain set <discovery-domain-set-name> is not in the server.

3.2.11 add-dd

```
isnsadm add-dd <options> <discovery-domain-set-name>
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-d, --dd	<discovery-domain-name>	Used to specify a discovery domain that is to be added to a discovery domain set.

DESCRIPTION

This will add a discovery domain to the discovery domain set referenced by `discovery-domain-set-name`.

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. – if the discovery domain <discovery-domain-set-name> is not in the server.

Discovery domain <discovery-domain-name> not found. – if the <discovery-domain-node-name> is invalid.

Discovery domain <discovery-domain-name> is already a member in discovery domain set <discovery-domain-set-name>. – if the discovery domain is already in the discovery domain set.

3.2.12 add-node

```
isnsadm add-node <options> <discovery-domain-name>
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-n, --node	<iscsi-node-name>	Used to specify the node name that will be added to the operand discovery domain.

DESCRIPTION

This will add a node to the discovery domain referenced by discovery-domain-name.

ERROR MESSAGES:

Discovery domain <discovery-domain-name> not found. – if the discovery domain <discovery-domain-name> is not in the server.

Node <iscsi-node-name> not found. – if the node <iscsi-node-name> is not in the server.

Node <iscsi-node-name> is already a member in discovery domain <discovery-domain-name>. – if the node is already in the discovery domain.

3.2.13 remove-dd

```
isnsadm remove-dd <options> <discovery-domain-set-name>
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-d, --dd	<discovery-domain-name>	Used to specify the discovery domain that is to be removed from the discovery domain set.

DESCRIPTION

This will remove a discovery domain from the discovery domain set referenced by discovery-domain-set-name.

ERROR MESSAGES:

Discovery domain set <discovery-domain-set-name> not found. - if the discovery domain set <discovery-domain-set-name> is not in the server.

Discovery domain <discovery-domain-name> not found. - if the <discovery-domain> is not found.

Discovery domain <discovery-domain-name> is not in discovery domain set<discovery-domain-set-name>. - if the discovery domain is not in the discovery domain set.

3.2.14 remove-node

```
isnsadm remove-node <options> <discovery-domain-name>
```

<i>Options</i>	<i>Arguments</i>	<i>Description</i>
-n, --node	<iscsi-node-name>	Used to specify the node that is to be removed from the discovery domain.

DESCRIPTION

This will remove a node from the discovery domain referenced by discovery-domain-name.

ERROR MESSAGES:

Discovery domain <discovery-domain-name> not found. – if the discovery domain <discovery-domain-name> is not in the server.

Node <iscsi-node-name> not found. – if the discovery domain <iscsi-node-name> is not in the server.

Node <iscsi-node-name> is not in discovery domain <discovery-domain-name>. – if the ndoe is not in the discovery domain.