Cisco TelePresence FindMe (VCS Express)

Deployment Guide

VCS X7.1

D14525.04

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Contents

Introduction

FindMe provides the ability to specify which endpoints (video and audio-only) should ring when someone calls a user's FindMe ID. FindMe also allows a user to specify fallback devices which will be called if any of the primary devices are busy, and to specify fallback devices which will be called if none of the primary devices are answered.

An important feature of FindMe is that the administrator can configure the caller ID that is displayed on the called party's endpoint to be that of the caller's FindMe ID, rather than the ID of the caller's endpoint. This means that when that call is returned, the call will be to the FindMe ID, resulting in all that user's active FindMe location phones ringing, rather than just ringing the endpoint that happened to be the one they were at when they made the original call.

This guide assumes that the Cisco TelePresence Video Communication Server (VCS) has already been configured so that endpoints can register and that video calls can be made between those endpoints. It specifies the administrator level configuration required to set up FindMe on the VCS and to create user accounts with FindMe profiles.

- This guide applies only to system deployments that do not use Cisco TelePresence Management Suite (Cisco TMS). If you are deploying FindMe in a system that uses Cisco TMS (for the mass provisioning of FindMe accounts), see *Cisco TMS Provisioning Extension Deployment Guide* instead. Note that if you subsequently migrate from a system deployment that does not use Cisco TMS to a system that does use Cisco TMS, any FindMe accounts that were configured on the VCS will be deleted and replaced by account data provided by Cisco TMS.

More information about how individual users can configure their FindMe accounts is available in *FindMe Express User Guide*.

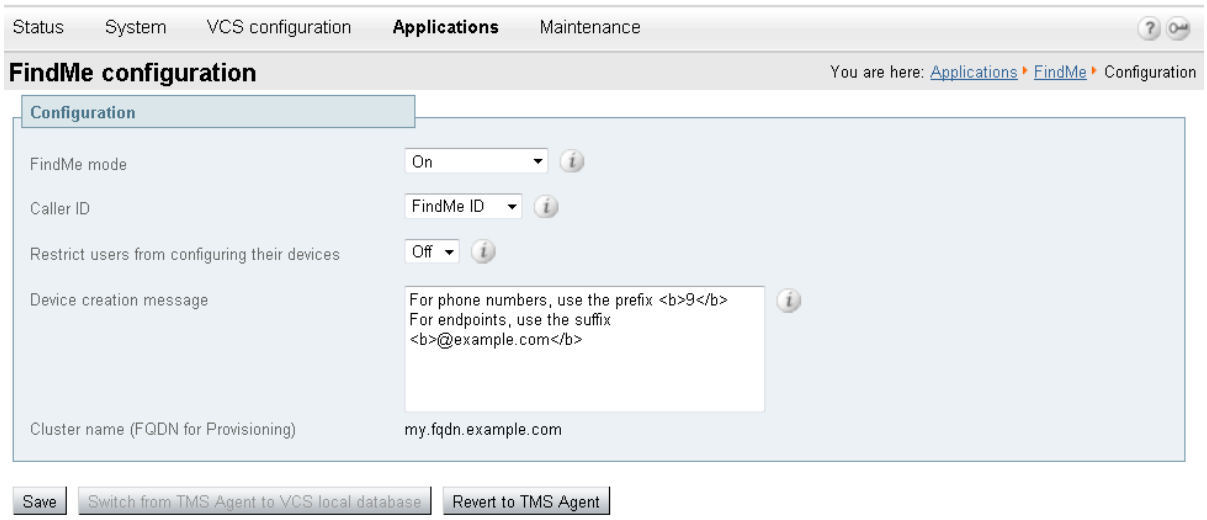
Setting up FindMe

The VCS must have FindMe functionality enabled so that it knows to route calls to the devices associated with a user's FindMe ID.

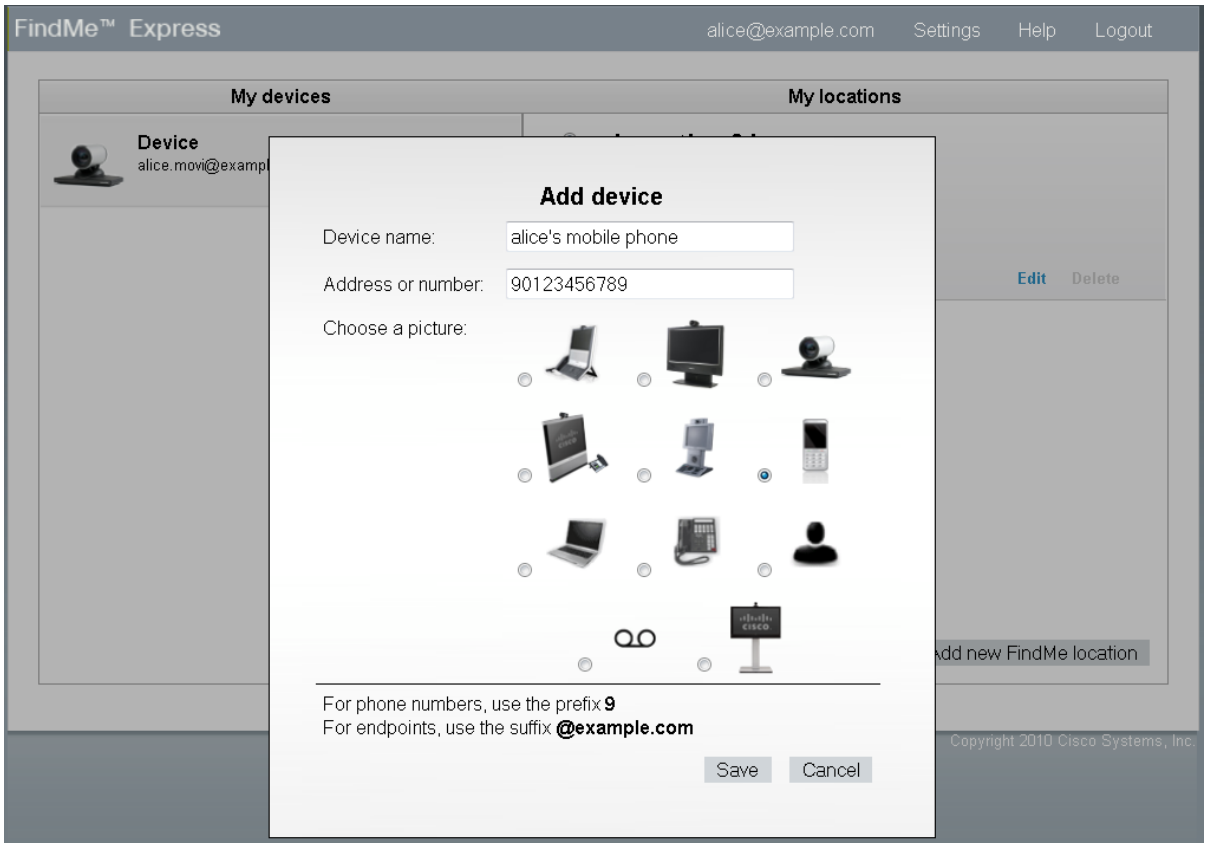
To enable FindMe on the VCS:

1. Ensure that the VCS has the FindMe option key installed (**Maintenance > Option keys**). If it does not, contact your reseller to obtain a key.
2. Go to the **FindMe configuration** page (**Applications > FindMe > Configuration**).
3. Set **FindMe mode** to *On*.
4. We recommend that you set **Caller ID** to *FindMe ID*. The options are:
   - *FindMe ID*: the caller ID of a call being made through this VCS is replaced with the relevant FindMe ID.
   - *Incoming ID*: the caller ID is not altered; the caller ID presented to the called endpoint will be the ID of the endpoint initiating the call.

   For more details on the use of Caller ID and FindMe ID, see Determining how to overwrite a caller ID with a FindMe ID.
5. If you do not want users to be able to configure their own additional devices to add to their FindMe (their mobile phone number, for example) then set **Restrict users from configuring their devices** to *On*, otherwise leave it as *Off*.
6. Set up a Device creation message, such as "For Mobile and PSTN numbers, enter 9 followed by the phone number of the device to call, for example `901344123456`.
   This message is displayed when a user adds a new device and is useful for specifying, for example:
   - how the VCS can route calls out of a gateway to the PSTN
   - the format of endpoint IDs
7. Click **Save**.



The picture below shows example usage of the FindMe Express end-user interface. In particular it shows how the **Device creation message** may appear when a user is specifying a new device to add to their Findme profile.



Setting up user accounts and FindMe profiles

FindMe profiles are configured in user accounts. User accounts are set up manually, one at a time through the VCS interface by the system administrator. After an account has been created, individual users can log in to their user account and manage their FindMe profile.

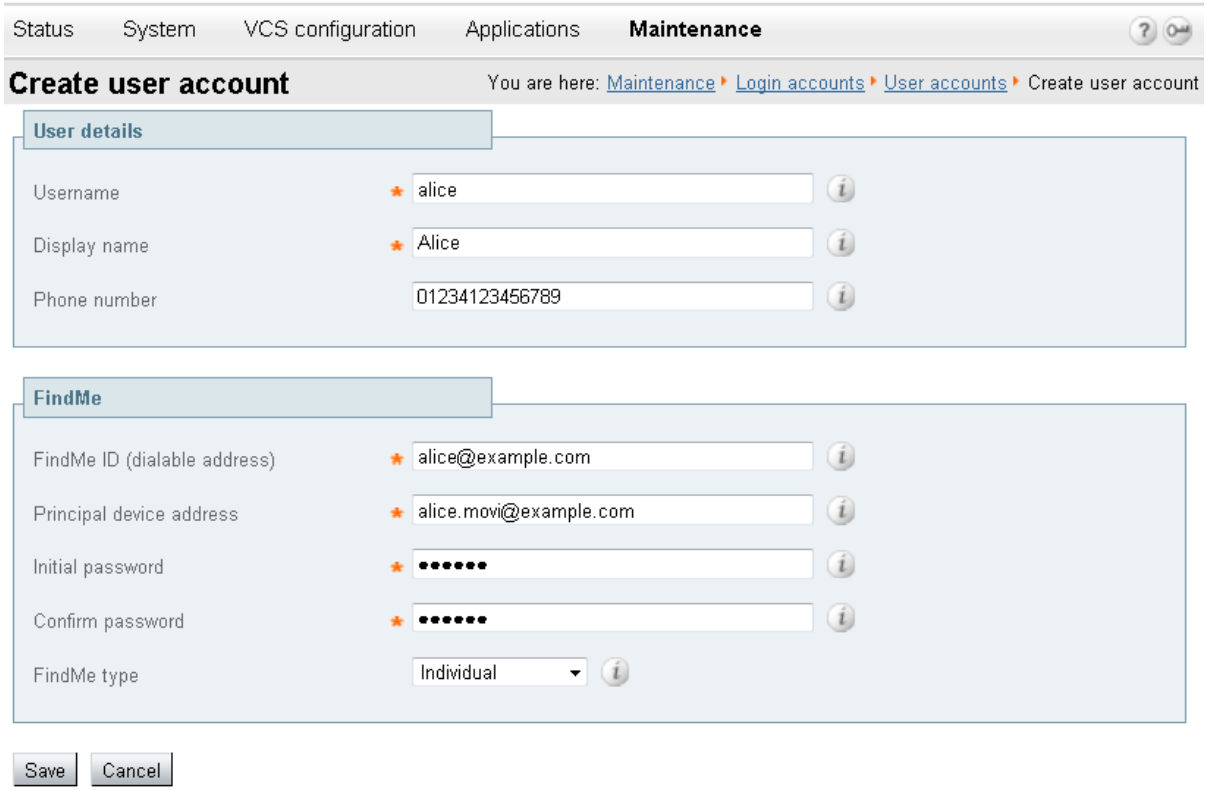
To set up user accounts on VCS:

1. Go to the **User accounts** page (**Maintenance > Login accounts > User accounts**).
2. Click **New**.
3. Configure the fields as follows:

Field name	Description
Username	The username for logging into this user account. For example name.surname. (The username is case insensitive, and may include spaces.) If LDAP login authentication is to be used, the username must exactly match the username in the LDAP accessible database. If local database authentication is to be used, this username must be used as the name in the local authentication database. Note: the username must be different from the FindMe ID.
Display name	The user's name without formatting restrictions. It is displayed in endpoint phone books. For example Name Surname
Phone number	The E.164 caller ID to be presented on outdialed H.323 calls, e.g. to ISDN gateways. (It must only contain digits – do not include any spaces, hyphens or brackets.) Note: If calls may be placed to an ISDN gateway, ensure that the format of this phone number matches the requirements of the ISDN provider.
FindMe ID	The FindMe ID is a unique alias through which the user can be contacted on all of their endpoints. It can be a URI, an H.323 ID or an E.164 number. For example name.surname@company.com Note: the FindMe ID must be different from the username (but it can, for example, be in the format username@domain).
Principal device address	The ID of the initial device in the FindMe - specified as the URI, H.323 ID or E.164 number of the primary device of this user. Note 1: Principal devices cannot be deleted by users. Note 2: The principal device address must be different from the FindMe ID. For more details on principal devices, see "Determining how to overwrite a caller ID with a FindMe ID".
Initial password**	The password to log into the user's account..
Confirm password**	Repeat the password entered above.
FindMe type	Select *Individual* or *Group* (see "Individual and group FindMe types".)

** The password entries are displayed only if **User authentication source** is set to *Local* (see "Configuring user account login authentication"). If **User authentication source** is set to *Remote*, the login password is authenticated by the LDAP connected database.

4. Click **Save**.
5. Repeat steps 2 to 4 to create all the required user accounts.



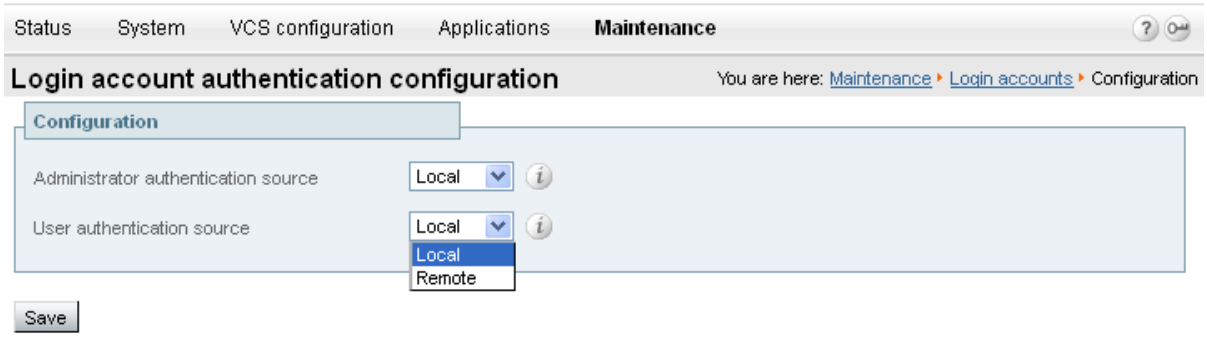
Additional FindMe devices can be added on the **Edit user account** page by following the Edit user link in the **Configure devices and locations** section. See *FindMe Express User Guide* for more details.

Configuring user account login authentication

When a user logs in to their FindMe account (through the **User Login** screen of the VCS) to configure their FindMe profile, their password can be authenticated against either a local database stored on the VCS or against an LDAP accessible database (such as Microsoft Active Directory).

To configure how user passwords are authenticated:

1. Go to the **Login account authentication configuration** page (**Maintenance > Login accounts > Configuration**).
2. Select the appropriate **User authentication source**:
   - Use *Local* if the VCS is to store passwords locally.
     The user's password is initially configured when their account is created by the administrator. Users can modify their passwords by selecting the **Change Password** option at the top of the FindMe Express home page.
   - Use *Remote* if the VCS will authenticate passwords against an external credentials directory via LDAP. Users will not be able to modify their passwords through the FindMe Express interface.



Note that before a *Remote* authentication source can be used, the connection details to the LDAP authentication server must be configured – see *Authenticating VCS Accounts using LDAP Deployment Guide*.

Sending and returning calls via ISDN gateways

This section describes how to use FindMe with calls that are routed via an ISDN gateway (for example, when calling a mobile phone, or some other ISDN accessible destination).

If the VCS has **Caller ID** (**Applications > FindMe > Configuration**) set to use the *FindMe ID*, the caller ID presented will be the user's E.164 phone number.

If the called party returns the call (and the E.164 number is routed by the network to an ISDN gateway on the video network), the call will be received by the ISDN gateway and forwarded to VCS with the E.164 phone number as the called number.

VCS therefore needs to be configured to route this call to the relevant FindMe ID in order to call the user's endpoints. This can be carried out either by using another FindMe entry, or by setting up ENUM.

Using FindMe to convert E.164 numbers to FindMe IDs

This method uses an additional FindMe account to redirect E.164 dialed numbers to URIs.

For each user with both a URI-style or H.323 ID FindMe ID and an associated E.164 phone number, set up a second user account (**Maintenance > Login accounts > User accounts**) with:

- the **Username**, for example **`123456-name.surname`**
- the **FindMe ID** set to the user's E.164 phone number
- the **Principal device address** set to the FindMe ID of their main account

This is a static mapping, so the user will not ever need to log in to this second (E.164) account. Any changes to devices associated with that user are always made in their main account.

Using ENUM to convert E.164 numbers to FindMe IDs

Using ENUM allows incoming E.164 numbers to be looked up in an ENUM server and the call forwarded to the URI associated with that number.

To use ENUM:

- for each account, set up the phone number as the ENUM address in the DNS server and map it to the FindMe ID for that account

Configuration and implementation details for ENUM are available in *ENUM dialing on VCS Deployment Guide*.

Including the ISDN gateway prefix in the caller ID

It is easier to return a PSTN / ISDN call that has been received through an ISDN gateway if the VCS is configured to include the prefix of the ISDN gateway in the caller ID.

To configure the **Gateway caller ID** on the VCS:

1. Go to the **H.323** page (**VCS configuration > Protocols > H.323**).
2. Set the **Gateway Caller ID** as appropriate. The options are:
   - *Include prefix*: the caller ID displayed on the receiving phone is the caller's phone number prefixed by the ISDN gateway's prefix. This means the recipient can directly return the call by selecting the number and pressing return call (provided that an appropriate search rule is in place to allow calls with this prefix to be routed to the ISDN gateway). This is the recommended option.
   - *Exclude prefix*: the caller ID displayed on the receiving phone is just the caller's phone number. To return the call, the number must either be redialed or edited prefixing it with the gateway prefix so that the call can be routed via the gateway to the telephone network.

Note that if the VCS interworks an E164 H.323 call, it creates a caller ID with a domain set to the IP address of the VCS that carried out the interworking. Appropriate search rules must be created to handle the routing of these calls, or a transform implemented that converts **`number@IPofVCS`** into **`number@LocalSipDomain`**.

Additional information

Determining how to overwrite a caller ID with a FindMe ID

VCS can only overwrite the Caller ID with a FindMe ID if:

- the call signaling passes through the VCS (or VCS cluster) that hosts the FindMe account
- the VCS can identify a FindMe as the owner of the endpoint caller ID; it can do this if the incoming caller ID provided in the call matches one of the following:
  - a FindMe device which is only found in a single FindMe account
  - a single principal FindMe device (if the same device address is associated with more than one FindMe location).

If either condition is not met, the Incoming caller ID is passed through unchanged.

Principal devices

Principal devices are designed to be key devices for the user who owns them:

- A device is identified as a principal device if it is the initially configured device when the FindMe account was created.
- Users cannot delete a principal device from their account. Administrators can modify whether a device is a principal device or not on the **Edit principal devices** page (**Maintenance > Login accounts > User accounts**, select an account, then select *Edit principal devices*).

FindMe in a VCS cluster

When FindMe is used with a VCS cluster, the FindMe option key must be enabled on every VCS peer in the cluster. The FindMe database is replicated across all peers in the cluster so that FindMe functionality can be performed on any peer that a call traverses.

See *VCS Cluster Creation and Maintenance Deployment Guide* for more information about VCS clusters.

Microsoft OCS/Lync and the VCS B2BUA

When FindMe is used with a cluster of "OCS/Lync gateway" VCSs, each peer in the cluster registers a portion of the FindMe users to Microsoft OCS/Lync so that call loading is shared across cluster peers. (Calls from OCS/Lync to VCS are delivered by OCS/Lync to the VCS that registered the user.)

See *Microsoft OCS 2007, Lync 2010 and VCS Deployment Guide* for more information.

FindMe accounts hosted on different VCSs in a network

FindMe accounts can be distributed across multiple VCSs (or VCS clusters), but each individual account can be hosted on only one VCS (or VCS cluster).

For FindMe to overwrite a caller ID with the caller's FindMe ID, the call signaling must pass through the VCS (or VCS cluster) that hosts the relevant account.

Therefore, care must be taken in designing system topologies to ensure that caller ID can always be overwritten.

For example, if two users have their accounts on a VCS Control, but both are working from home on endpoints that are registered to a VCS Expressway (which has a traversal zone to the VCS Control):

- If one user calls the other user's FindMe ID, their caller ID will be overwritten by their FindMe ID, as the call signaling will go via the VCS Control (where the user account is hosted).
- If one caller calls the other user's endpoint URI directly, the call signaling will go through the VCS Expressway, but not the VCS Control. In this scenario the caller ID will not be overwritten with the FindMe ID as the signaling would not pass through the VCS Control. (It is recommended that users call FindMe IDs rather than individual device URIs.)

FindMe and Presence

The VCS aggregates presence for each of the devices associated with a user's current active FindMe location. However, it can only do this for devices whose presence is managed by a Presence Server that resides on the same VCS (or VCS cluster) that hosts the relevant FindMe account.

Therefore, we recommend that you enable the Presence Server on the same VCS (or VCS cluster) that you use to manage your FindMe accounts.

Individual and group FindMe types

Every FindMe profile is configured as either *Individual* or *Group*.

Individual

Individual mode assumes that the individual can only take a call on one device at a time.

- If any device in the current active location is busy, a call to this FindMe ID will be immediately forwarded to the on-busy devices.
- If no devices (in the current active location) were busy, after the specified ring duration the call will route to the on-no-answer devices.

Group

Group mode assumes that more than one person can take calls to this FindMe.

- If any device in the current active location is not busy, the non-busy devices will ring. The call is immediately forwarded to the on-busy devices only if all devices in the current active location are busy.
- If any device in the current active location is not busy, after the specified ring duration FindMe will route the call to the:
  - on-busy devices if any current active location device was busy
  - on-no-answer devices if none of the current active location device were busy

Characters allowed in SIP URIs

The following character set is allowed in SIP URIs (further details may be found in *RFC 3261*):

- **`a-z`** and **`A-Z`**
- **`0-9`**
- `-` and `_`

- . and '
- ! and ?
- (and)
- ~
- *
- &
- =
- +
- $
- ,
- ;
- /

If other characters are needed, they must be escaped using "%" HexDigit HexDigit, where HexDigit HexDigit is the ASCII value for the required character.

For example, **firstname%20lastname@example.com**, where **%20** represents the space character.

Troubleshooting

Using search history to diagnose FindMe issues

Looking at search history (on the VCS or VCS cluster that hosts the relevant user account) is usually the best place to start diagnosing FindMe-related problems.

The search history shows the search for the FindMe ID and then how User Policy forks the call to look at all the devices in the currently active location. The results of the searches for each device are also shown.

Known limitations

Microsoft OCS/Lync device IDs as FindMe devices

If **Caller ID** (**Applications > FindMe > Configuration**) is configured to use the *FindMe ID*, so that the FindMe ID rather than the device's own endpoint ID is presented as the caller ID when making calls, OCS/Lync device IDs must not be included as a device in that FindMe. (OCS/Lync does not support the To: or From: name changing in response messages, which is how the VCS sets the Caller ID to show as the FindMe ID).

To associate video endpoints and OCS/Lync devices, the VCS's B2BUA for OCS/Lync devices should be enabled and the FindMe ID should be made the same as the OCS/Lync URI.

For further details on configuring VCS and OCS/Lync, see *Microsoft OCS 2007, Lync 2010 and VCS Deployment Guide*.

Bibliography

Title	Reference	Link
VCS Administrator Guide	D14049	www.cisco.com
FindMe Express User Guide	D14088	www.cisco.com
Microsoft OCS 2007, Lync 2010 and VCS Deployment Guide	D14269	www.cisco.com
VCS Cluster Creation and Maintenance Deployment Guide	D14367	www.cisco.com
Cisco TMS Provisioning Extension Deployment Guide	D14368	www.cisco.com
Authenticating VCS Accounts using LDAP Deployment Guide	D14526	www.cisco.com
ENUM dialing on VCS Deployment Guide	D14465	www.cisco.com

Document revision history

The following table summarizes the changes that have been applied to this document.

Revision	Date	Description
1	March 2010	Initial release.
2	October 2010	New document styles applied.
3	February 2011	Updated for VCS X6.
4	March 2012	Updated for VCS X7.1.