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A **BELDEN** BRAND

# **ITX™ DUAL-SITE CHANNEL CONTROL**

## **Configuration Guide**

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### Document Identification

- **Title:** iTX Dual-Site Channel Control Configuration Guide
- **Software version:** iTX 2.12

### Document Revision History

After the original release date, these release notes may be updated with edits and then re-released. The following table tracks the versions of this document.

Publication date	Description
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## About Dual-Site Channel Control

Two channels spread across different iTX Domains now have the ability to be linked as a Main/Backup pair. This allows for channels to be spread across systems or even locations (sties) and operator control of channels to originate from a single location. These channels can be failed over, scheduled and operated in the same manner as existing iTX channel deployments.

An additional feature has also been produced which allows for Channel Controllers to be manually promoted in the case of a routing failure or intended route away from the main and backup channel. This situation mainly applies in the case the customer is using the 3rd HCO input to achieve a spare or lifeboat channel.

## Configuring iTX for Dual-Site Channel Control

The following sections guide you through the tasks required to add and configure the dual-site channel control functionality to two separate iTX systems that are already setup and running.

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### Note:

For practical reasons, this document refers to Site A as the iTX system hosting the Main channel on one iTX domain and Site B as the iTX system running the Backup channel on another iTX domain.

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### To configure iTX for dual-site channel control:

1. [Configure the iTX Locator Service on each site](#)
2. [Verify that the Router Crosspoints are identical on both systems](#)
3. [Install and configure the Main channel on Site A](#)
4. [Install and configure the identical Main channel on Site B](#)
5. [Convert the Main channel on Site B to a Backup channel](#)
6. [Configuring the Channel Networks](#)
7. [Verify connectivity between the dual-site channel](#)

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### Tip:

Configure the domain names to allow for easy identification between sites. For example, itx-1 and itx-2 or itx-a or itx-b.

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## Configure the iTX Locator Service on each site

Dual-site channel control requires that both sites be configured with the details of the other site's domain and Locator Service. This allows iTX services running in one domain to find other iTX services running in the other domain.

For more information, please consult “Creating a Locator domain configuration file” in the *iTX System Administrator Guide*.

#### To add the iTX Locator Service details on each of the iTX domains

8. On the iTX Framework Server for Site A, open the **Locator Service Domain Configuration** tool (Start > Programs > iTX 2.0 > Locator Service Domain Config).
9. Right-click in the **Other Domains** list and select **Add New Domain**.
10. In the **Other Domain** dialog, add the details of the iTX domain that is hosting the backup channel.
  - **Domain Name:** The domain name of the iTX system that will be hosting the back-up channel (Site B).
  - **Primary Locator Uri:** The uri specified must be the full locator service uri and not just the IP address (e.g. tcp://10.118.200.30:8999).
11. Click **OK** to close the Other Domain dialog.
12. Click **Save** to close the Locator Service Configuration window.
13. On the iTX Framework Server for Site B, open the **Locator Service Domain Configuration** tool and repeat steps 2 to 5, but specify the domain name and uri of the iTX system that will be hosting the Main channel (Site A).

## Verify that the Router Crosspoints are identical on both systems

The router crosspoints must be identical for both sites. To validate that they are, you should run a query on the Router Crosspoints table on each site’s SQL database and verify that the Router Ids associated with each router crosspoint are identical.

#### To query the Router Crosspoint table and view the results

1. On iTX Framework Server for Site A, open the **Microsoft SQL Server Management Studio**.
2. In the **Connect to Server** window, do the following:
  - For **Server type**, select Database Engine.
  - For **Server name**, enter the name of your SQL Server instance.
  - For **Authentication**, select Windows Authentication.
  - Click **Connect**.
3. Paste the following T-SQL code snippet into the query window:
 

```
SELECT * FROM [ITX].[dbo].[Router_RTX_RouterCrosspoint];
```
4. Click **Execute**.
 

The results of a query are visible below the query text window.
5. Repeat steps 1 to 4 on the iTX Framework Server for Site B.
6. Ensure that the Router Ids are identical in the SQL database on each site.

## Install and configure the Main channel on Site A

On the iTX Output Server intended to host the Main channel (Site A), add and configure the channel by following the instructions in the “Creating an Initial Channel During Installation” section of the *Output Server 2 Channel Configuration Guide*.

## Install and configure the identical Main channel on Site B

Dual-site channel control requires that the Main channel’s TXPlay configuration be present on the Site B’s Output Server, as well as Site A. As such, you must repeat the exact same tasks you performed in the [Install and configure the Main channel on Site A](#) section, but this time on Site B’s iTX Output Server. Be sure to use the exact same configuration settings and information.

## Convert the Main channel on Site B to a Backup channel

On the iTX Output Server for Site B, add and configure the backup channel by following the instructions in the “Adding a Backup Channel to an iTX System” section of the *Output Server 2 Channel Configuration Guide*.

## Configuring the Channel Networks

After the Main channel has been added to one iTX domain and its backup channel has been added to the other domain, you must assign the channels to the Channel Network by adding them to the Channel Controller configuration on both sites.

### To assign channels to the Channel Networks

1. On Site A, open the iTX Desktop on a client PC and login with an Administrator profile.
2. Open the **Configuration** layout.
3. Click **Configure Channel Controller**.

The **Configure Channel Controller** page appears and lists the channels currently registered with the Channel Controller.

4. Click **Edit** next to the Main channel.  
The channel’s current Channel Controller configuration is displayed.
5. Click **Add Backup** in the Primary channels section. A backup channel is added to the primary channel list.
6. Click **Save**.  
A message appears informing you that the configuration will only take effect after restarting the Channel Controller.

7. Click **OK**.
8. The **Configure Channel Controller** page appears again and you must click **Edit** next to the Main channel.
9. Click the **Dual-site** tab and check **Enable Dual Site**.

10. Set the Main channel's **Location** field to the domain that is hosting the backup channel (Site B).
11. Set the Backup channel's **Location** field to the domain that is hosting the Main channel (Site A).
12. Click **Save**.
13. On the iTX Output Server (Site A), restart the Server Controller.
14. Repeat steps 1-13 on Site B.

## Verify connectivity between the dual-site channel

Once the Channel Network has been configured and the channels have been restarted, the Channel Controller begins to monitor channels in both sites. This can be verified by using the diagnostics function on Channel Controller.

### To verify the channels are monitored and connected across sites

1. On the iTX Output Server that is currently designated as "On Air", display the **Channel Controller** service window.
2. In the **Channel Controller** window, select the **Service Details** tab and ensure that the service's Health indicator is green.
3. Select the **Service Details** sub-tab.
4. In the **Service Info** section, verify that the **Resilience** field indicates **Primary/Backup [Primary, Promoted]**.
5. Select the **Diagnostics** sub-tab, do the following:
  - Click **Generate Diagnostics Report**.  
A report is run and the results are displayed in the pane below.
  - In the **CHANNEL NETWORK LIST** section of the report, verify that both channels are listed with the correct domain and marked as Available.

## Configuring the Main and Backup Colors

To facilitate the identification of the OnAir site for a channel, we recommend that you configure different colors for the "Master On-Air" and "Backup On-Air" options in the iTX Desktop.

### To configure the color settings for Master On-Air and Back On-Air

1. Open the iTX Desktop on a client PC and login with an Administrator profile.
2. Open the **Engineering** layout.
3. In the **System Management** section, click **Color Config**.
4. In the **Master On-Air** row, click the **ForeColour** cell, select an appropriate color and click **OK**.
5. In the **Master On-Air** row, click the **BackColour** cell, select an appropriate color and click **OK**.
6. Repeat steps 4 and 5 for **Backup On-Air**.
7. Click **Close**.

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#### Note:

This is a global configuration whose settings affect all channels within the site.

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### **Grass Valley Technical Support**

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