



**DT-6061**

**LOOP TEST NETWORKING  
IP-LTCN APPLICATION  
DEPLOYMENT OPTIONS**



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## 1 INTRODUCTION

This document assumes that the reader has knowledge of the IP-LTCN and the problems that it resolves. The reader is encouraged to read the IP-LTCN user's manual prior to embarking in this document. All documents, including this one, may be found at <http://www.datatekcorp.com> under the documentation button.

The IP-LTCN architecture was designed with flexibility and efficiency in mind. It represents the **absolute** lowest cost replacement for the DCN architecture.

Using state of the art components, the IP-LTCN is a distributed architecture where a portion of the operations are performed at the network edge in the DT-4000 (or DT-4180) interface access devices. Some of the IP-LTCN logic is directly built into the DT-4xxx devices, and some is updated dynamically by the IP-LTCN. This allows the IP-LTCN the ability to support of 768 LTS interfaces on a minimal amount of low power fault tolerant hardware.

The DT-6061, and the DT-4xxx are, without argument, the lowest cost devices for their specific functions in the industry. For example, a competitor has a card to fit into a cage doing some of the DT-4xxx functions. That card itself, without any of the required infrastructure, has a cost 150% that of the DT-4000. The DT-6061 has no equal available anywhere. It is an inexpensive low power NEBS3 certified device which can also be fault tolerant. To the best knowledge of the architect and author, there is no lower cost solution for DCN replacement than the *recommended configuration* provided in this document.

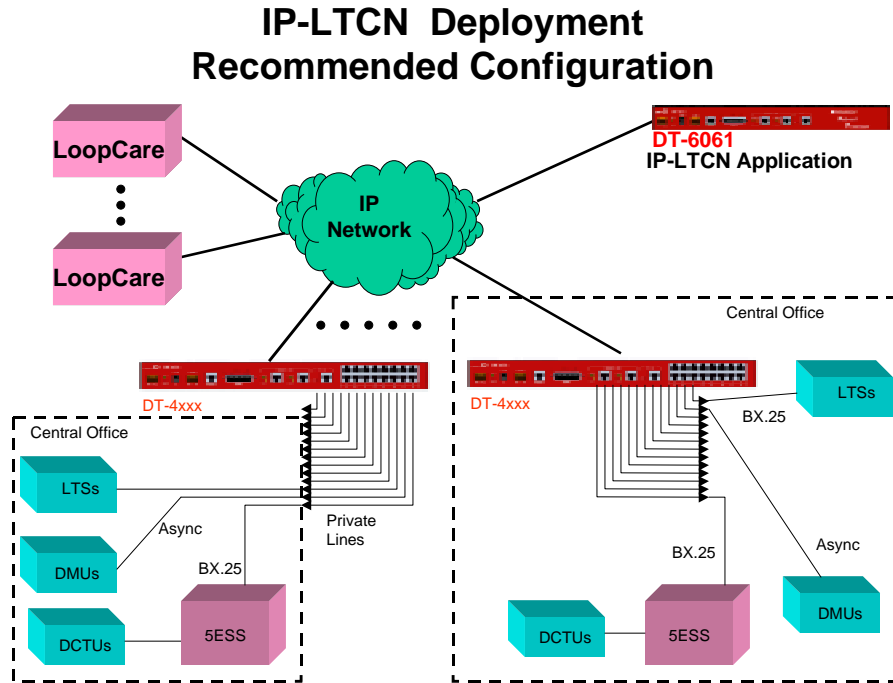
However, some of the users of IP-LTCN already have an embedded infrastructure consisting of legacy components. Other users are not sensitive to cost concerns and have a preference to using router serial ports. In order to answer these requests, the IP-LTCN architecture has been enhanced with "plug-in" interoperability. The IP-LTCN is now able to interface with embedded legacy devices such as Lucent Technologies BNS/Datakit Network Endpoints, or the Applied Innovation series 180 frames with series 296 serial port cards. It can also interface with different vendor devices of modern vintage such as the CBM of America IP terminal server, and the Cisco 2621 router serial ports.

The IP-LTCN does not need to be exclusive to any one technology. Any number of LTS's may be attached to the IP-LTCN by any number of different vintage interfaces. The "plug in" technology does not diminish the IP-LTCN ability to support all 768 LTS devices. Finally, the IP-LTCN "plug in" technology allows a smooth and easy migration from legacy devices to the state of the art DT-4xxx devices. There is never a need to perform a flash cut of many LTS's at one time.

Please reference the “Availability” section to see when the appropriate plug-in of interest is to become available. The first “Plug In” module is for the Lucent Technologies BNS/Datakit network endpoints to support an easy migration from the LCN architecture.

## 2 RECOMMENDED CONFIGURATION

The *recommended configuration* consists of the DT-6061 IP-LTCN base, with DT-4xxx interface access to the LTS. This configuration is the absolute lowest cost to deploy. The DT-4180 may be substituted for the DT-4000s if their enhanced functionality is needed for another application.



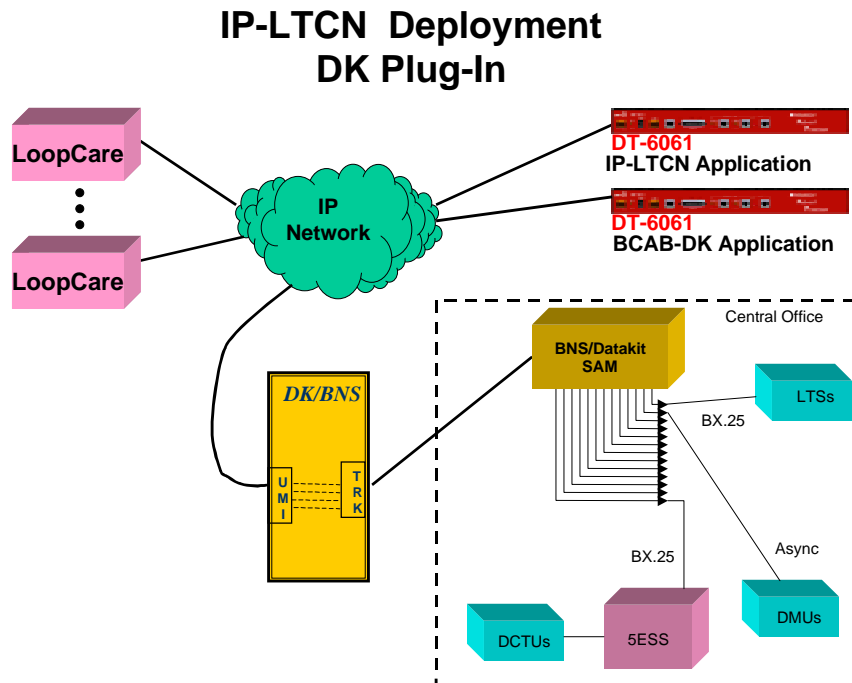
In the diagram above, the LoopCare system accesses the LTS via the IP-LTCN. The DMU's are accessed directly to the DT-4xxx ports.



### 3 LUCENT TECHNOLOGIES BNS/DATAKIT

One or more LTS's may use the **BCAB\_DK** plug-in to attach to the IP-LTCN. The plug-in allows interoperability with the legacy interfaces. Each plug-in is unique in that it performs mediation to a specific interface type. The plug-in also performs the enhanced function native to the DT-4xxx family of devices.

The following is a diagram to demonstrate connectivity of BNS/Datakit endpoints.



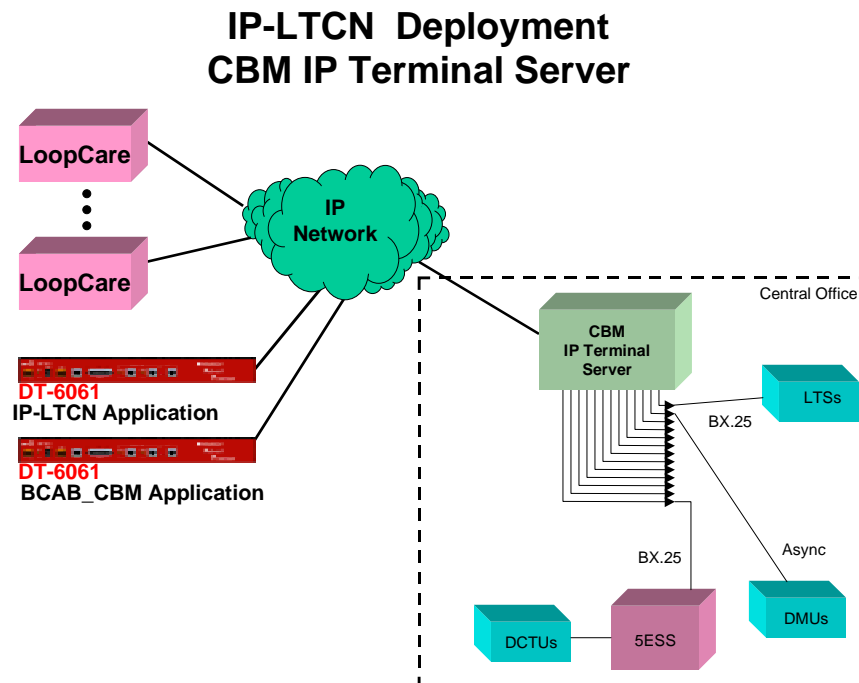
In the diagram above, the LTS's are accessed via the IP-LTCN as in the recommended configuration. The DMU's are accessed directly via the UMI. The **BCAB\_DK** plug-in to the IP-LTCN provides support for the BNS/Datakit endpoints. No network changes are needed to migrate an LCN environment.



#### 4 CBM IP TERMINAL SERVER

One or more LTS's may use the **BCAB\_CBM** plug-in to attach to the IP-LTCN. The plug-in allows interoperability with the CBM of America Terminal server interfaces. Each plug-in is unique in that it performs mediation to a specific interface type. The plug-in also performs the enhanced function native to the DT-4xx family of devices.

The following is a diagram to demonstrate connectivity of CBM of America IP terminal server endpoints.



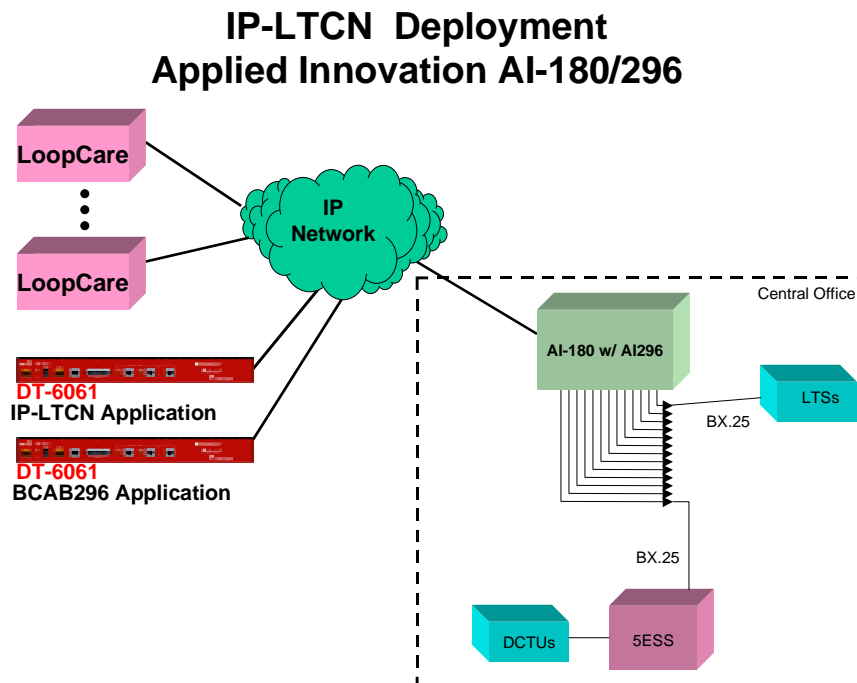
In the diagram above, the LTS's are accessed via the IP-LTCN as in the recommended configuration. The DMU's are accessed directly via the CBM terminal server. The **BCAB\_CBM** plug-in to the IP-LTCN provides support for the CBM terminal server endpoints. No network or wiring changes are required.



## 5 APPLIED INNOVATION AI-180/296 SERIAL PORTS

One or more LTS's may use the **bcab296** plug-in to attach to the IP-LTCN. The plug-in allows interoperability with the legacy interfaces from Applied Innovation. Each plug-in is unique in that it performs mediation to a specific interface type. The plug-in also performs the enhanced function native to the DT-4xxx family of devices.

The following is a diagram to demonstrate connectivity of the Applied Innovation 296 serial port endpoints.



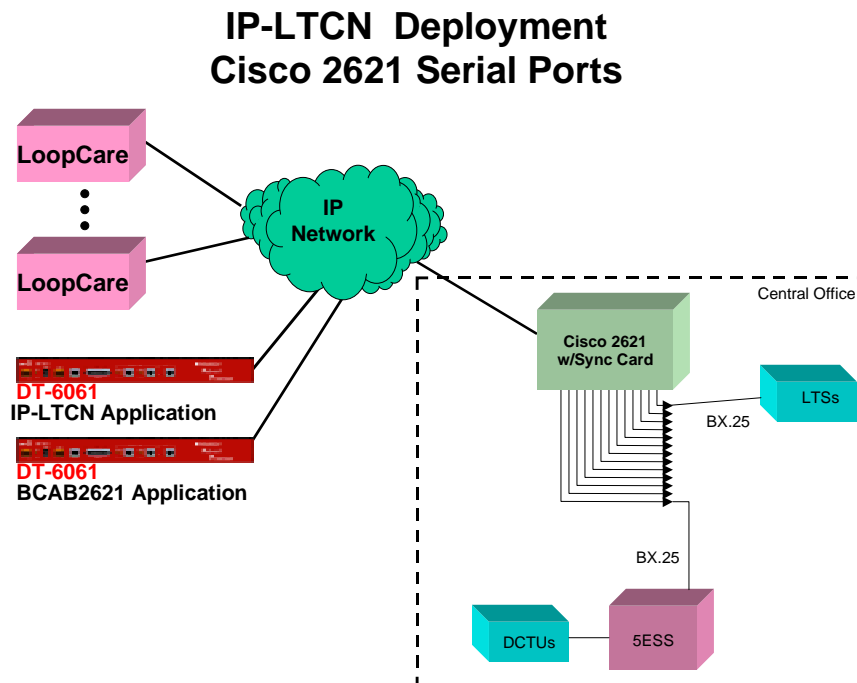
In the diagram above, the **BCAB296** plug-in to the IP-LTCN provides support for the Applied Innovation Series 180 frames with series 296 synchronous serial ports serving LTS endpoints.



## 6 CISCO 2621 ROUTER SERIAL PORTS

One or more LTS's may use the **bcab2621** plug-in to attach to the IP-LTCN. The plug-in allows interoperability with the Cisco series 2621 synchronous serial ports. Each plug-in is unique in that it performs mediation to a specific interface type. The plug-in also performs the enhanced function native to the DT-4xx family of devices.

The following is a diagram to demonstrate connectivity of the Cisco 2621 router connected endpoints.

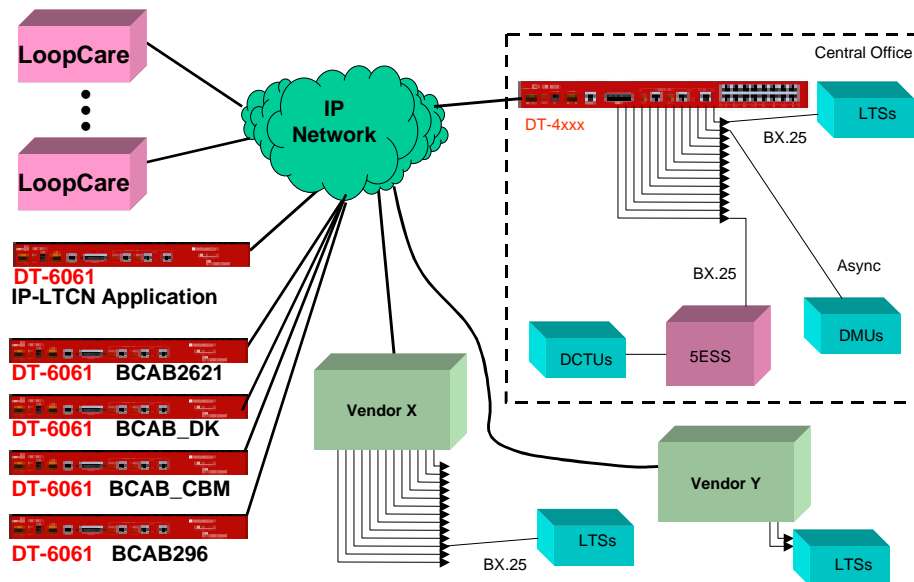


In the diagram above, the **BCAB2621** plug-in to the IP-LTCN provides support for the Cisco series 2621 Router synchronous Serial ports serving LTS endpoints.

## 7 MIXED CONFIGURATIONS

As noted earlier, the IP-LTCN plug-in architecture allows for many vendor products to be used simultaneously. This allows the IP-LTCN deployment to be efficient in taking into account any legacy devices already in place. Future migration to the DT-4xxx devices can proceed as the endpoint offices are brought up to date.

### IP-LTCN Deployment Mixed Vendor



## 8 AVAILABILITY

The following table defines the expected release date of each IP-LTCN plug-in. Major factors in these dates are availability of test equipment, and support provided by the equipment manufacturer.

<u>Configuration</u>	<u>Plug In</u>	<u>Availability</u>	<u>Notes</u>
Recommended	N/A	Now	
BNS/Datakit	BCAB_DK	4Q2002	No significant issues.
CBM	BCAB_CBM	1H2003	No significant issues.
Cisco 2621	BCAB2621	Planned for 2003	Vendor hardware is expected for development testing.
AI 180/296	BCAB296	Pending	Vendor hardware is not available at this time.



## 9 CONTACT

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Specifically, any vendor devices required that is not covered by this document should be forwarded to the author. Please include the number of these devices already embedded in the target network. Every effort will be made to incorporate any legacy device into the IP-LTCN architecture.



## **10 WARRANTY**

The warranty period for hardware shall be 90 days from the date of delivery, and the warranty for software shall be 90 days from the date of delivery. Replacements and repairs are guaranteed for the longer of the remaining original warranty period or 90 days.



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