Low-cost ISDN backup by sharing ISDN

Data communications has become a critical area of a company's existence. Loss of an important leased circuit can have major repercussions in terms of lost business, lost customers, lost data, failed applications, disrupted manufacturing processes, staff down-time and of course all the associated costs.

Leased lines *are* reliable, but they *do* and *will* eventually fail.

ISDN backup units are there to provide continuity as an "insurance policy". Designed to quickly replace the leased line connection with a temporary ISDN link, backup can be provided at speeds from 64kbps to a full 2.048Mbps.

Whilst the price of the backup unit itself is a consideration in determining whether the "insurance policy" is good value, the cost of the ISDN installation and on-going rental is usually significantly higher than the capital cost of the product.

Experience has shown that if the leased line fails and the backup unit keeps everything running, the "policy" was ridiculously cheap. If the leased line fails and there is no backup, the policy would look very attractive, at almost any cost - if only it had been implemented!

In many instances, particularly at higher speeds, an important and much-needed backup system has not been deployed simply because of the on-going costs for dedicated ISDN. This is where the Liberator can help.

Customers can use Liberator to:

- **Share ISDN lines between backup units and other devices**
- **To allocate a "minimum" amount of ISDN capacity to the backup so there is at least some service available immediately**
- **To prioritise the backup so when needed it has access to available ISDN channels ahead of other applications**

Application descriptions

Most ISDN backup installations require a dedicated ISDN service which is always available should it be needed for backup purposes, as shown in Diagram 1.


Diagram 1
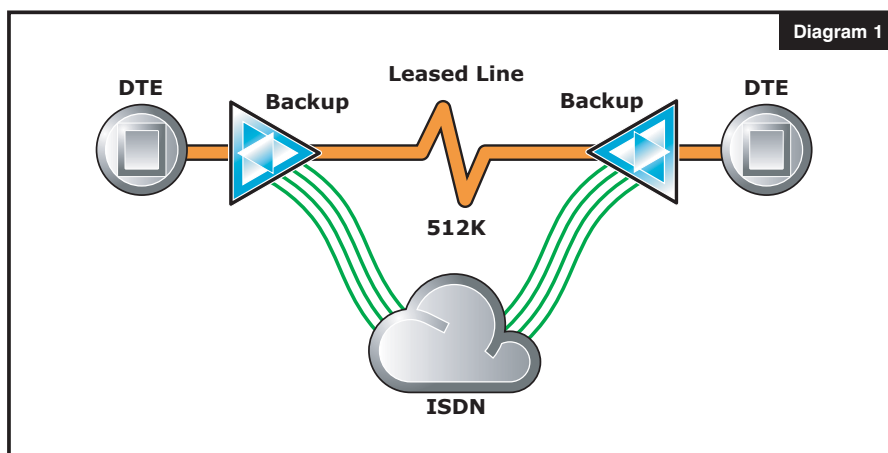
This does have the advantage that the service can be relied upon to deliver a given backup speed almost instantly. Whilst the ISDN has a price, for important applications this can easily be justified against the implications of just a single leased line outage.

Where the cost justification is not so easy, and where ISDN is already delivered to the location, use of the Liberator can help greatly.

Sharing the ISDN between "normal" every-day applications and the backup application means the overall cost-of-ownership of the backup service is greatly reduced and can be far easier to justify.

How Liberator can help (1)

If the PABX already has a PRI line installed, it is possible to share this service between the demands of the PABX and the very occasional demands for backup, as illustrated in Diagram 2.

Diagram 2
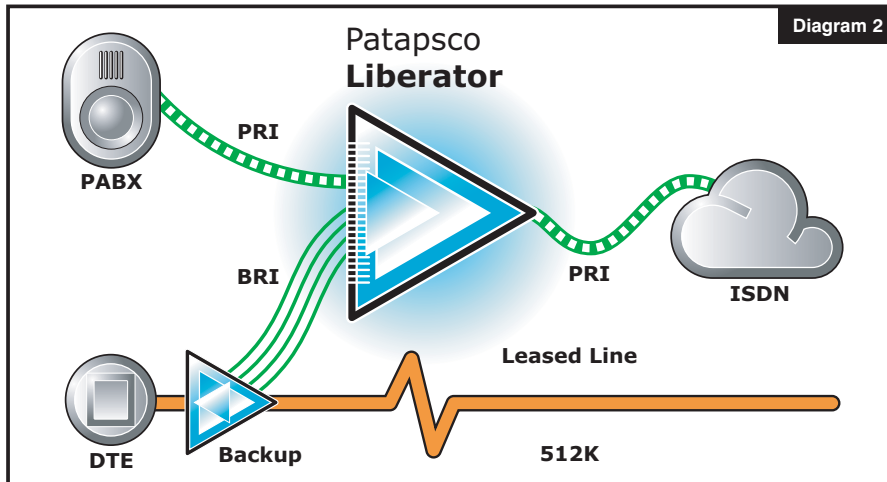
The customer might choose to increase the number of rented channels and permanently reserve just a minimum number for the backup unit, but this is not necessary.

If this were done, the PABX would benefit from extra circuits for its peak loads and if the backup unit were needed to replace a failed leased line, it would have circuits immediately available and would then dial additional channels when they became free (on a priority basis).

Patapsco design and supply professional backup products which are available with a variety of interfaces, including a PRI for high and low speed applications as shown above. These Databand units are low-cost, compact, reliable and easy to configure. When used in conjunction with the Liberator as shown above, they make a very attractive low-cost package for backup.

Patapsco's web site www.patapsco.co.uk has information on backup products.

How Liberator can help (2)

Another variation with backup units is to combine the sharing of ISDN and install a small amount of additional ISDN lines to the exchange to give even more resilience.

In Diagram 3 the backup speed required is 512kbps, or 8 channels. Liberator provides the backup unit with a shared PRI, and delivers up to 8 channels to the backup unit. An additional dedicated BRI circuit is installed from the telephone exchange and connected directly to the backup unit.

Diagram 3
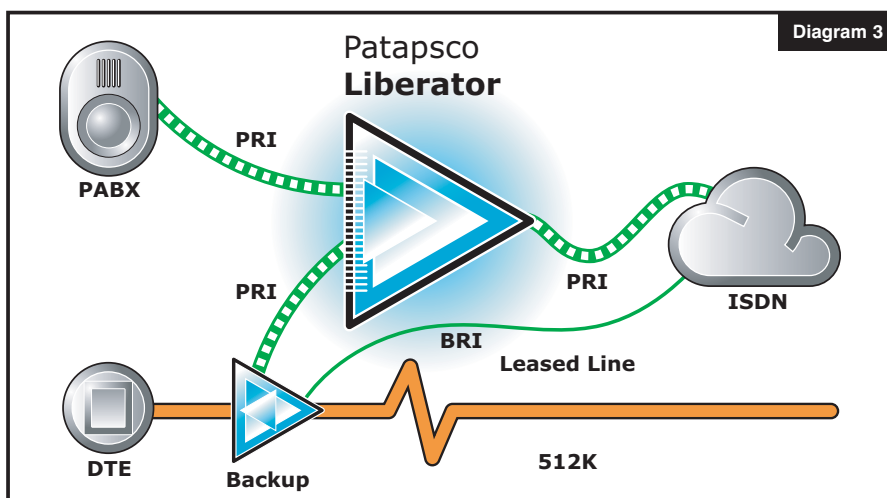
When backup is needed, the unit dials 8 channels via its PRI. But if for any reason there is a problem, it will dial 2 channels via the BRI. Benefits are reduced overall costs and improved resilience offered by these two ISDN delivery methods.

How Liberator can help (3) – Mixed Applications

Whilst this note is one of a series that considers different applications separately, Liberator places no restriction on the number of applications that can be supported simultaneously.

Overall, the benefits of Liberator for multiple ISDN installations are:

- Improved ISDN usage by giving all devices access to a single "pool" of circuits, allowing the overall number of circuits to be reduced.
- Increase in service levels to/from devices by maintaining the number of network ports yet increasing the number of connections from the devices to the Liberator.
- Reduced installation costs
- Reduced rental costs by using capacity more efficiently
- Simplify billing and circuit tracking.
- Fast availability of extra BRIs for expansion at virtually no cost
- Less space, fewer "boxes" and simplified cabling.
- Fast, simple installation with minimal user-impact.
- Simple to configure and re-configure (unlike most PABXs!)

Summary

The Liberator is a range of professional products for carriers and corporates. Priced to help reduce ISDN installation costs, reduce rental costs and improve flexibility and expansion, it requires no system changes or user disruption, keeps data applications separate from voice and is easy to install and configure.

Other application notes in this series cover:

AN-006(A)	PRI to BRI Conversion
AN-006(B)	Using existing PRI's to provide BRI ports
AN-006(C)	Sharing a single PRI between PRI and BRI devices
AN-006(D)	ISDN "Time-of-Day" Reconfiguration
AN-006(E)	Low-cost ISDN backup by sharing ISDN
AN-006(F)	Improve dial-in and dial-out access and user/application performance without increasing network costs
AN-006(G)	Pre-allocate network resources applications have access to
AN-006(H)	Stand-alone BRI and/or PRI "networks" for demonstration and testing or across-site communications
AN-006(I)	Low-cost Carrier provision of PRI, Fractional E1 and BRI
AN-006(J)	Least Cost routing to a second carrier