This session will introduce system network architecture (SNA) and advanced peer-to-peer networking (APPN) capabilities on Passport. It will show Passport as the next step for evolving SNA networks. The presentation will show the interworking between DPN-100 and Passport and illustrate some deployment examples.

This workshop will be of interest to customers with Passport-only networks as well as existing DPN-100 SNA customers from enterprise and service provider markets. It will demonstrate how Passport can be deployed in existing networks and the benefits of doing so. For Passport-only customers, the workshop will show the ease and benefits of adding SNA/APPN to the Passport network.

About the presenter:

Denis Fortier has more than 13 years of data communications experience. Denis currently holds the position of manager of the IBM services development group at Nortel. In this role, Denis has managed the development of such features as the Passport APPN network node (NN), DPN-100 T2.1 router, SNA over async, and miscellaneous enhancements to the token ring SNA service, synchronous data link control (SDLC) SNA service, and intelligent source routing bridge (ISRB).

Before this appointment in 1992, Denis held the position of senior software developer where he led the development of such features as the token ring SNA service, ISRB, and numerous custom protocols.

Denis obtained a co-op Bachelor of Mathematics degree in Computer Science from the University of Waterloo in 1983.

Agenda

- **Passport SNA/APPN overview**
- Deployment examples
- Summary

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Passport SNA/APPN overview:

This section provides an overview of the current and planned capabilities of the SNA solution set on Passport which includes transparent services such as high-level data link control (HDLC), transparent data service (HTDS) and frame relay, as well as SNA data link routing (DLR) and APPN.

This section will highlight the benefits of the various solutions with a special focus on the Magellan benefits. It will provide information to assist you in determining what is best for your organization.

Deployment examples:

Numerous deployment examples are examined to help you visualize the benefits offered by the Passport SNA/APPN offerings. The examples also illustrate the ease of evolving your network.

Summary:

This section summarizes the key points of the presentation.

Passport SNA/APPN Overview

- Transparent services
  - HTDS
  - frame relay
- SNA data link routing (DLR)
- APPN network node (NN)

3

The Magellan SNA/APPN services fall into three distinct categories:

Transparent services:

These services which include HTDS and frame relay give the user the ability to interconnect devices using the same type of connectivity at each end. Transparent services can be used to carry legacy SNA and APPN traffic.

SNA data link routing (DLR):

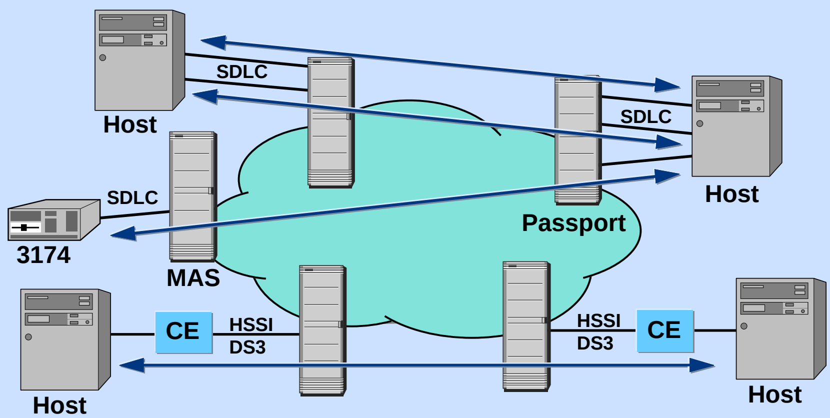
Simply put, this service provides level 2 termination. With this approach, the data link layer is terminated at the point of entry. Data is converted to qualified logical link control (QLLC) for transport across the network and is subsequently converted back to the same or different external media. This service will carry SNA and APPN traffic. The initial version of the service is very similar to the DPN-100 token ring SNA service.

APPN network node (NN):

This service provides full network node capability in the network. It can only be used for APPN.

HTDS

- Carries SDLC transparently
- Can be used with channel extenders (CE)



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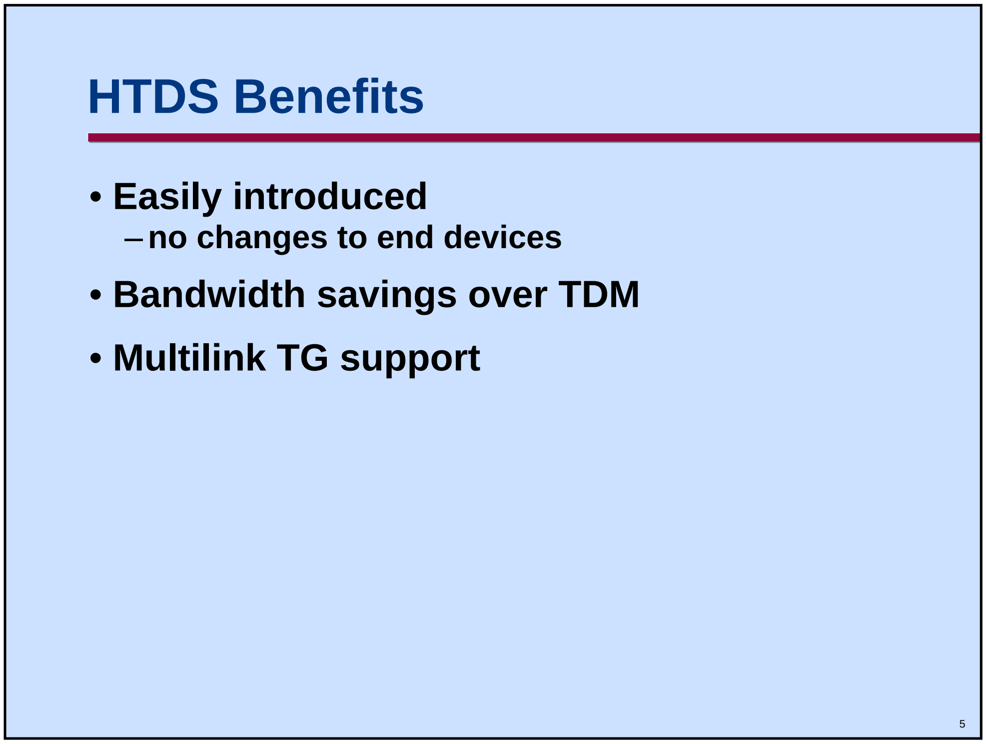
The HTDS service simply carries SDLC frames end to end. For each link coming into the network, there must be one link at the other end of the network. Idle flags are suppressed to optimize use of network bandwidth. Since no local termination is performed, multi-link transmission groups continue to be supported for legacy SNA.

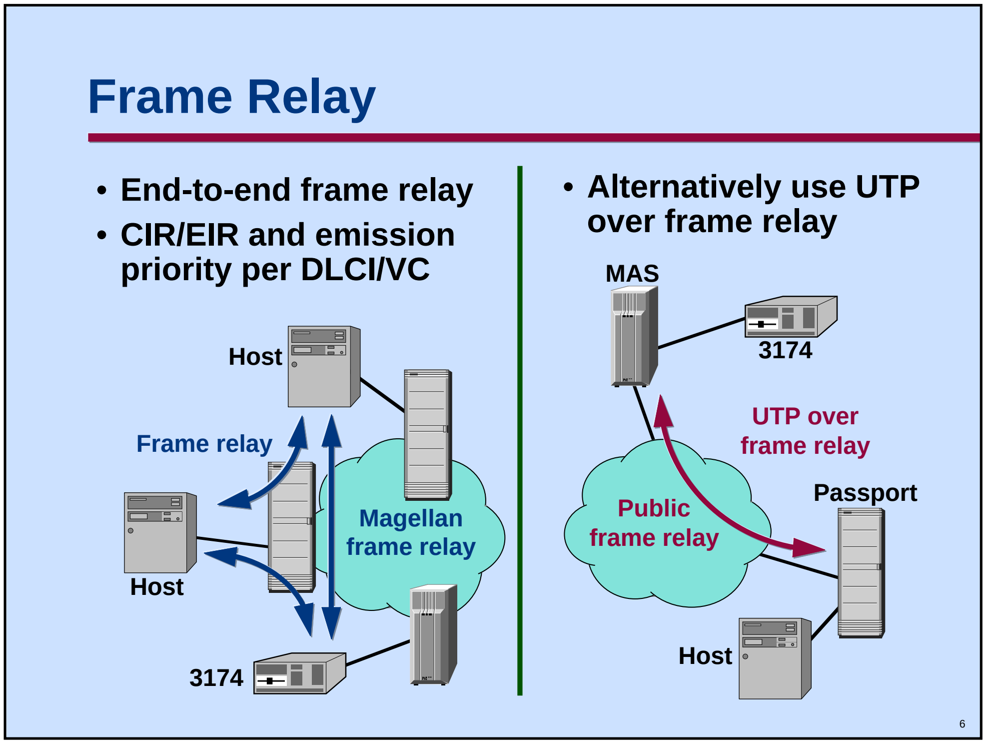
For high-speed environments, third party channel extenders (CE) can be used to convert channel data to HDLC and carried over high-speed serial interface (HSSI) links or DS3 links which are supported by the HTDS service. As with SDLC, each link coming into the network must have a corresponding link at the other end of the network and idle periods do not consume network bandwidth.



HTDS is simple to introduce. End devices continue to use SDLC or channel extenders and the frames are simply transported across the network to another SDLC attached device or channel extender.

When comparing HTDS to a time division multiplexer (TDM), considerable bandwidth can be saved since only real data frames occupy bandwidth in the network. The bandwidth consumed will be based on actual line utilization.

Since no local termination takes place, multi-link transmission groups (MLTGs) can continue to be used.



Frame relay has become a very popular way to connect SNA devices as frame relay is natively supported with most IBM devices. Typically, most devices can be made to support frame relay through simple software upgrades.

The Magellan frame relay service provides the ability to connect devices using frame relay end-to-end. The Magellan frame relay service is feature rich. It supports flow control with a committed information rate (CIR) and excess information rate (EIR) and prioritization (emission priority) on a per data link connection identifier (DLCI) basis, that is, per virtual circuit (VC).

Using the universal trunk protocol (UTP) over frame relay capability of Magellan allows interconnection of Magellan devices over a public frame relay network. With this approach, end devices need not be modified to use frame relay but simply continue to use existing methods such as SDLC, token ring, X.25, and async. that are available on the Magellan Access Switch (MAS) and other DPN-100 equipment.

Frame Relay Benefits

- Magellan frame relay service
  - easily introduced
  - emission priority per DLCI
  - bandwidth savings versus TDM
  - data consolidation
  - higher speeds/performance over SDLC
  - IBM endorsed
- UTP over public frame relay
  - use public frame relay where cost-effective
  - no upgrades to end devices
- Hybrid of the two solutions
  - best of both solutions

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Magellan frame relay service:

The single biggest reason for carrying SNA over frame relay has to be its simplicity and ease-of-introduction into the network and end devices. Frame relay is native to the network control program (NCP) and is available on most IBM devices such as the AS/400, Communications Manager/2, and 3174.

The Magellan frame relay service provides the ability to specify an emission priority on a per DLCI basis. This allows higher priority SNA traffic to overtake lower priority SNA traffic or other types of traffic such as internet protocol (IP).

When comparing frame relay to a time division multiplexer (TDM), considerable bandwidth can be saved since only real data frames occupy bandwidth in the network. The bandwidth consumed will be based on actual line utilization.

Use of frame relay permits full data consolidation for all types of data traffic.

There are many advantages to using frame relay instead of SDLC. Frame relay typically allows use of higher speed links. The performance of most devices improves with use of frame relay including network components. Further bandwidth savings can be achieved with reduced polling when comparing to HTDS because frame relay uses asynchronous balanced mode (ABM) link procedures. With frame relay, segmentation of large frames can be used to reduce store and forward delays and burstiness.

Frame relay has been endorsed by IBM in that they are promoting frame relay as an excellent replacement for SDLC. This is also seen with the native support within the NCP and the availability on other platforms.

UTP over public frame relay:

Use of public frame relay is ideal for getting to certain sites where it is cost-effective to do so.

End devices continue to use existing access methods without having to be upgraded to frame relay. For larger networks, upgrading of all legacy devices could prove costly.

Hybrid of the two solutions:

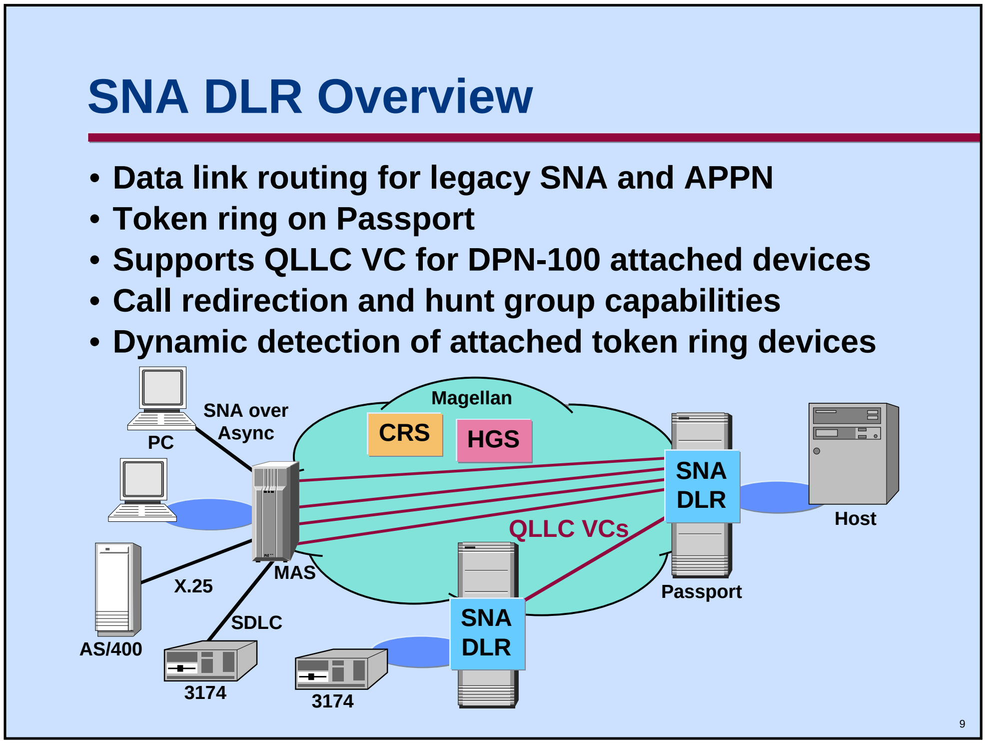
Using both solutions in the same network allows you to take advantage of both types of solutions as best fits your needs.

Passport SNA/APPN Overview

- Transparent services
- **SNA data link routing (DLR)**
- APPN network node (NN)

8

Simply put, the SNA DLR service provides level 2 termination. With this approach, the data link layer is terminated at the point of entry. Data is converted to qualified logical link control (QLLC) for transport across the network and is subsequently converted back to the same or different external media. This service will carry SNA and APPN traffic. The initial version of the service is very similar to the DPN-100 token ring SNA service.



SNA data link routing (DLR) is the evolution of SNA on DPN-100. It provides functionality that is very similar to the existing DPN-100 token ring SNA service. It provides routing for SNA and APPN traffic at the data link layer, that is, it provides layer 2 connectivity.

It currently supports token ring as the local local area network (LAN) interface on Passport.

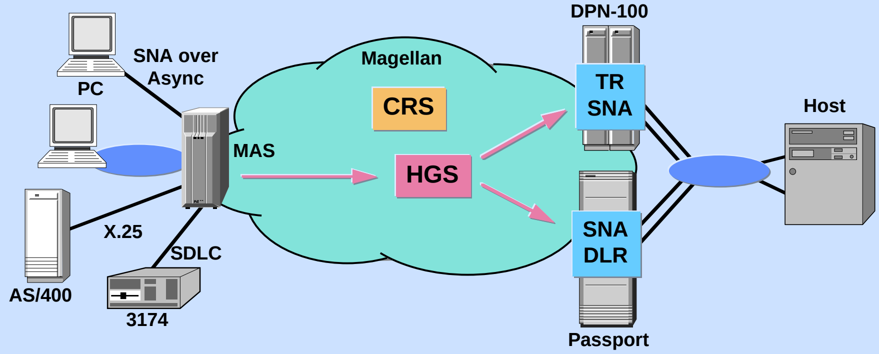
The WAN interface is QLLC and so provides full interworking with the DPN-100 SDLC, token ring, X.25, and SNA over async services. Passport token ring attached devices may also communicate with other Passport token ring attached devices.

The call redirection server (CRS) and hunt group server (HGS) are supported. Currently the CRS and HGS must be located on a DPN-100 module.

The major distinction and advantage of the Passport SNA DLR over the DPN-100 token ring SNA service is that it has the ability to dynamically recognize LAN attached devices. Attached devices need only be defined if they are the target of connection requests. In the example above, if the Passport token ring attached 3174 was configured to contact the Passport token ring attached host, the provisioning requirements would be as follows:

- At the Passport attached to the 3174, a direct call (required to reach the remote host) would be provisioned but the 3174 would not need to be defined.
- At the Passport attached to the host, the medium access control (MAC) address of the host would be provisioned with a corresponding Data Network Address (DNA) to indicate that all calls received for this DNA were destined for the MAC address of the host.

SNA DLR Benefits



- **Extends DPN-100 token ring SNA benefits to Passport**
  - **hunt group and call redirection**
  - **switched appearance to host**
  - **any-to-any connectivity**
  - **dynamic non-disruptive routing around failures**
  - **proven end-to-end COS**

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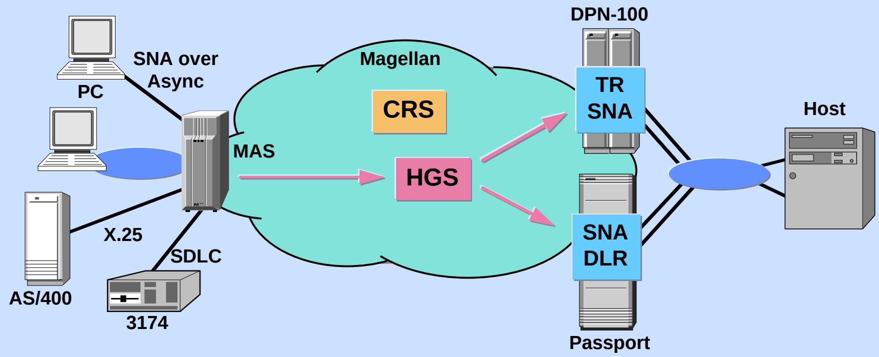
The Passport SNA DLR implementation extends the existing DPN-100 token ring SNA service benefits to Passport. The benefits include:

- The hunt group and call redirection servers are supported for proper load balancing and redundancy. Call redirection allows calls to be redirected dynamically without operator intervention to a predefined backup destination when calls fail to come up at the primary destination. The hunt group server allows load sharing between various access ports. If any component fails, the remaining members of the hunt group can take on the additional load until the faulty component is repaired without operator intervention. For example, with two token ring ports on Magellan and two token ring interface couplers (TICs) on a front end processor (FEP), the load can be balanced between the various interfaces with redundancy being provided by the multiple paths available.
- All devices appear switched to the host. Using switched connections provides much needed dynamism and allows customers to take full advantage of the hunt group and call redirection features.
- Complete protocol conversion is provided between token ring, SDLC, X.25, SNA over async (and eventually frame relay and other media) allowing most physical unit (PU) types to communicate (the one notable exception being PU 4 token ring to PU 4 X.25).
- The Magellan use of end-to-end virtual circuits over a connectionless subnet allows dynamic non-disruptive around failed links or nodes, that is, if any link or node fails within the Magellan network, virtual circuits are re-established over another available route without loss of data or disruption to the end devices.
- Magellan’s use of its Multiple Priority System (MPS) provides end-to-end class of service (COS) to the attached devices. SNA devices can be assigned a higher priority than other types of traffic to guarantee proper response times for mission- critical applications. The priority is end-to-end, that is, the prioritization is applied at all nodes in the network.

SNA DLR Benefits



- **Simple migration from DPN-100 to Passport**
- **Improved performance and fanout**
- **Dynamic learning of LAN attached devices**
- **TR port shared with other LAN protocols**

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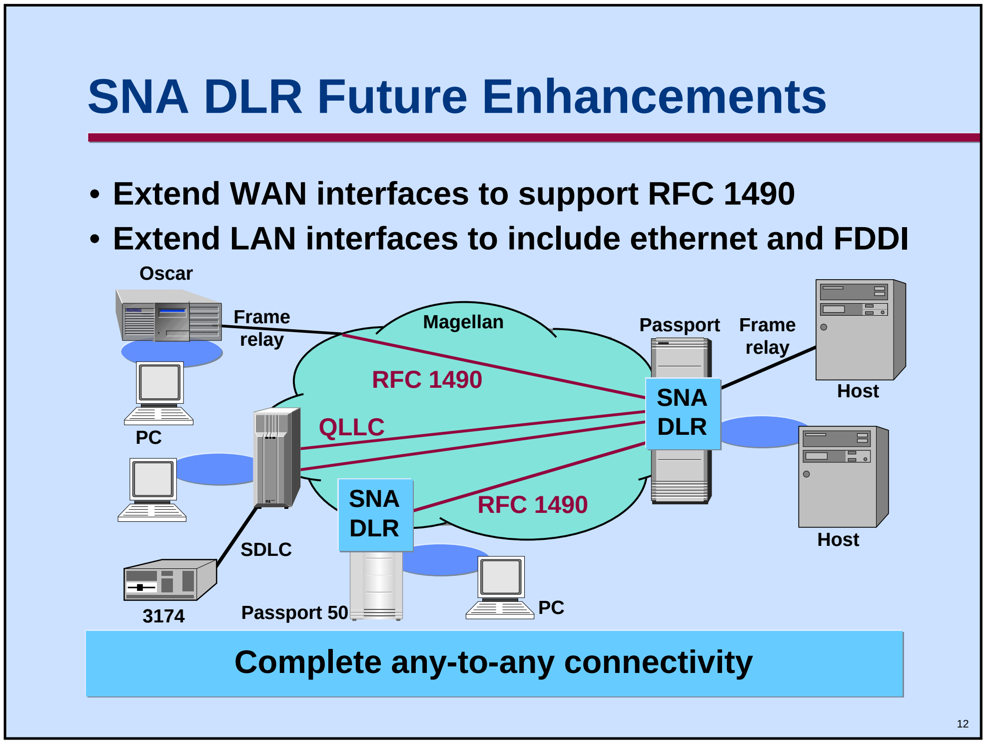
Migration from the DPN-100 token ring SNA service (TR SNA) is straightforward as the Passport service offers a superset of the DPN-100 capabilities. Using the HGS or CRS, the migration from DPN-100 to Passport can be done without changes to the installed base of DPN-100 equipment or remote devices. It also allows redeployment of displaced DPN-100 equipment.

The Passport implementation of DLR provides greater performance over its DPN-100 counterpart (performance is estimated at 5,000 packets per second). As well, SNA DLR extends the maximum number of logical link connections (LLCs) for greater fanout.

A further improvement over the DPN-100 implementation is its ability to dynamically learn about LAN attached devices. Attached devices need only be defined if they are the target of connection requests.

SNA DLR can share its external interfaces with other LAN protocols such as IP, internetwork packet exchange (IPX), and other supported protocols.



SNA encapsulation over frame relay using request for comments (RFC) 1490 is an upcoming enhancement. This will allow communications with Oscar, frame relay access devices (FRADs), routers, and SNA devices that connect directly to frame relay.

The list of supported LAN interfaces will be extended to include ethernet and FDDI.

With the delivery of these additional access media, this completes the picture for providing any-to-any connectivity with respect to protocol conversion.

Passport SNA/APPN Overview

- Transparent services
- SNA data link routing (DLR)
- **APPN network node (NN)**

APPN
ADVANCED PEER-TO-PEER NETWORKING

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This service provides full network node capability in the network. It can only be used for APPN.

The logo shown above is the official APPN logo which Nortel is licensed to use.

Will APPN Fly?

- APPN is open
  - APPN Implementors' Workshop (AIW)
  - vendor availability
- APPN CoS required by large SNA networks
- Reduced administrative costs
  - reduce or eliminate definitions
  - reduce or eliminate NCPs
  - manageable network change
- Migration from SNA to APPN is simple

Strong appeal to Fortune 1000 companies

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Will APPN fly? The biggest hurdle that APPN is currently facing is in gaining acceptance in the marketplace. Here are some reasons why it should succeed in the marketplace.

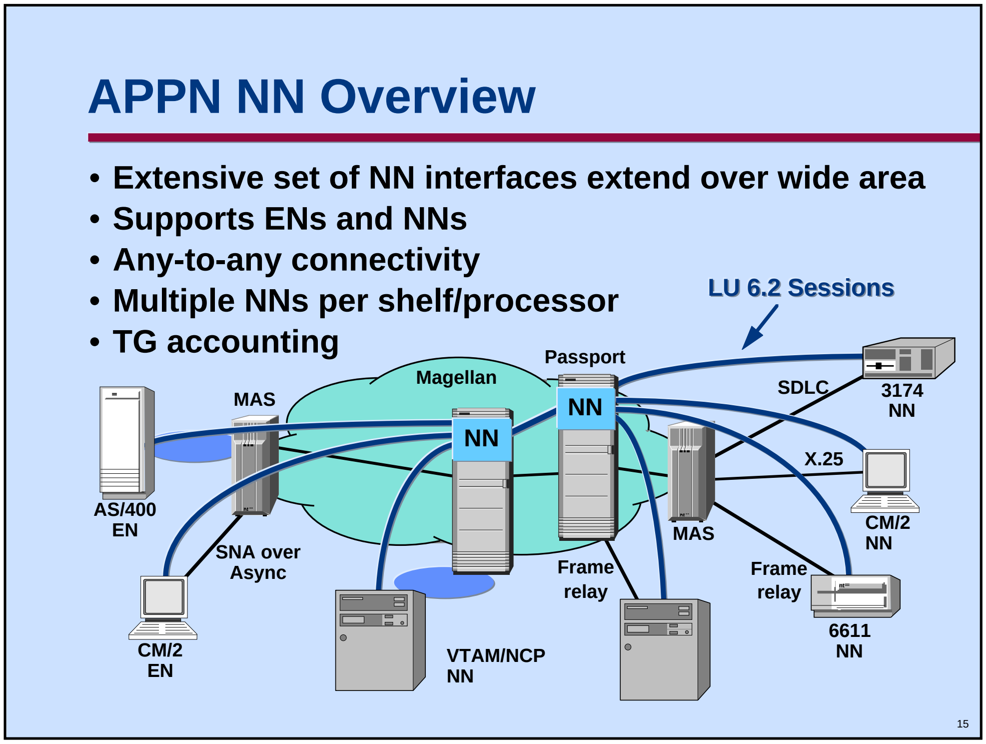
APPN is open: It is now emerging on many non-IBM platforms including Magellan. This has been made possible by IBM publishing APPN as an open architecture. A forum called the APPN Implementors' Workshop (AIW) was created for the purpose of maintaining and amending this open architecture. Nortel is an active participant in this forum.

Class of service (COS): APPN's greatest strength comes from its support for COS. Large SNA networks which are operating in mission-critical environments will have little choice but to migrate to APPN in order to evolve and maintain existing levels of service. APPN allows you to carry both mission-critical and file transfer type traffic over the same network without having to worry about the impacts of the file transfer applications on the mission-critical applications.

Reduced administrative costs: By migrating away from sub-area SNA to APPN, the complexities of maintaining virtual telecommunications access method (VTAM) path tables can be reduced by the removal of sub-areas or even eliminated if sub-area SNA is completed removed. The 3745s running NCP (and their expensive software licences) can also be reduced or eliminated if they are replaced by 3746 NNs. NN definitions are much simpler than NCP definitions. Once devices are converted to APPN, they become plug and play in nature because of the dynamism of APPN. NNs typically need not be statically configured with information about other network nodes (NNs) and end nodes (ENs) as they learn. This makes addition and relocation of nodes trivial.

Migration: With the recent advances in the APPN architecture such as high performance routing (HPR) and dependent logical unit server/requestor (DLUS/R), migration from sub-area SNA to APPN is straightforward.

APPN offers many advantages over sub-area SNA and other networking architectures. These advantages have strong appeal to the large organizations that form the Fortune 1000 such as those in the financial and transportation sectors. These organizations typically have many mission-critical applications that run over large sub-area SNA networks and for many, APPN offers the best evolutionary path for their networks.



The Magellan implementation is much more than a simple box solution. A major difference of the Magellan implementation over other vendors' implementations is the extension of the interfaces over the wide area network (WAN). Allowing the interfaces to extend over the WAN allows the network operator to take full advantage of Magellan networking features and to protect the existing DPN-100 investment.

The Passport NN currently supports an extensive set of interfaces. These include:

- DPN-100: frame relay, token ring, SDLC, X.25, SNA over async
- Passport: frame relay

Passport token ring, ethernet, and FDDI support are planned.

Passport NN to Passport NN communications is done using LLC2 encapsulation through RFC 1490.

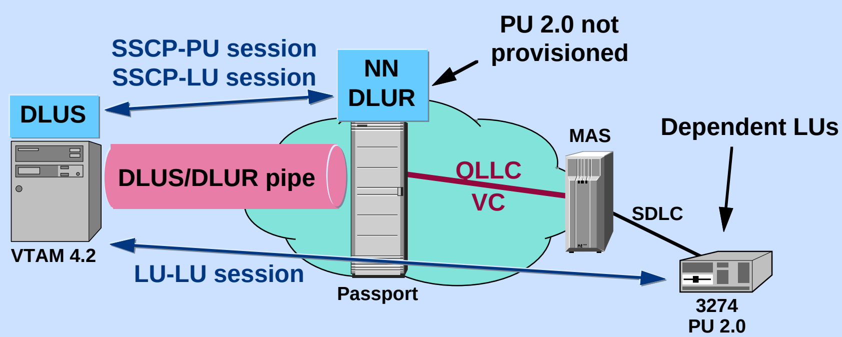
The Passport NN currently supports ENs and NNs. Low entry networking (LEN) node support is planned. Logical unit (LU) type 6.2 sessions flow through the NNs.

The Magellan solution provides any-to-any connectivity, that is, the NN has the ability to convert from one interface (level 2 protocol) to another. As an example, an AS/400 that is frame relay attached could communicate through the Magellan NN with a PC that is token ring attached.

Multiple APPN NNs can be defined on a single shelf or functional processor (FP) such that they belong to distinct APPN networks. This is very applicable to service providers and can also be applied to enterprise networks where network segregation is required.

Since VCs equate to transmission groups (TG) in the Magellan implementation, VC accounting records provide TG accounting.

Dependent LU Requestor (DLUR)



- Proxy DLUR, no upgrades to PU 2.0 devices
- Legacy SNA devices make use of APPN
- All devices become switched
- Dynamic learning of PU 2.0 devices

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The dependent logical unit requestor (DLUR) operating in conjunction with the dependent logical unit server (DLUS) is designed to alleviate some of the restrictions on dependent LUs. DLUS is only found in a PU type 5 node. It is currently available with VTAM V4R2. One or more DLURs can reside in NNs or ENs.

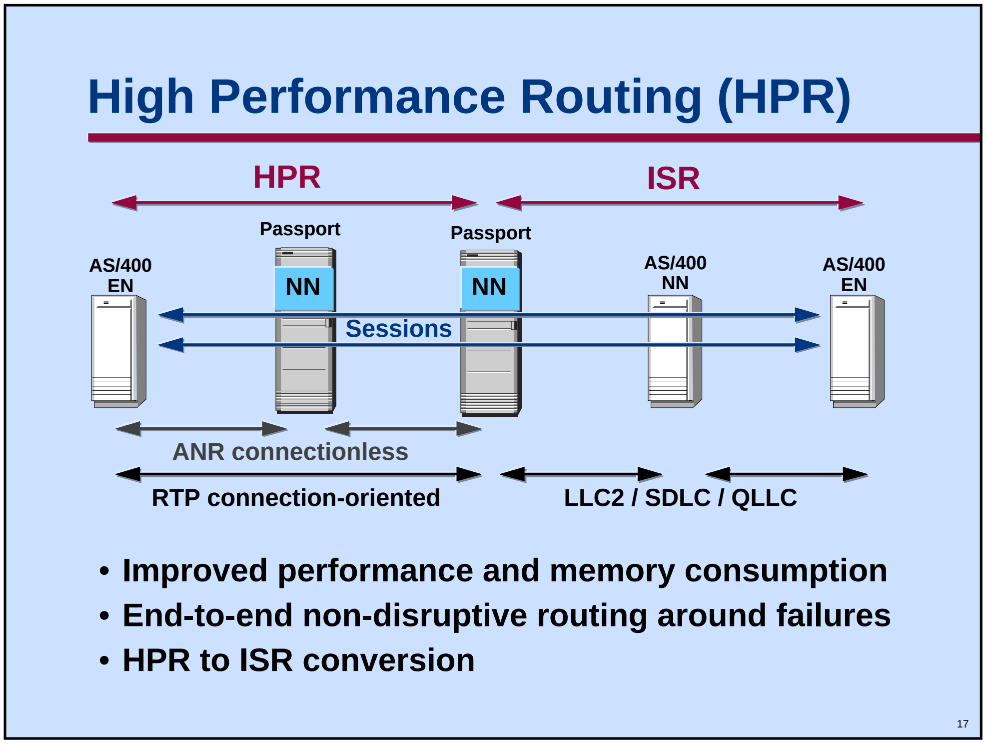
DLUS and DLUR operate by setting up a LU 6.2 pipe between them. This pipe is used to carry SSCP-PU and SSCP-LU session flows.

With DLUR, there is still a restriction that PU type 2.0 nodes must be adjacent to a DLUR capable node or alternatively, the PU 2.0 nodes must be converted into DLUR capable PU type 2.1 nodes. However, with the Magellan solution, the PU 2.0 nodes can be located virtually anywhere since VCs are used to extend the PU 2.0 connections from their physical location back to the Passport NN. As well, the PU 2.0 devices need not be upgraded. Essentially, the Passport NN acts as a proxy DLUR for the remote PU 2.0 devices.

With DLUR, dependent LU-LU sessions can take full advantage of APPN routing and class of service capabilities. LU-LU sessions need not follow the same route as the SSCP-PU and SSCP-LU sessions.

All dependent LUs are defined in VTAM switched major nodes. This makes the network much more dynamic as the location of dependent LUs becomes irrelevant.

The Passport NN allows dynamic learning of the attached PU 2.0 devices. They need not be provisioned at the DLUR. They would, however, have to be provisioned at the access point (e.g. DPN-100) as they are today and in VTAM switched major nodes.



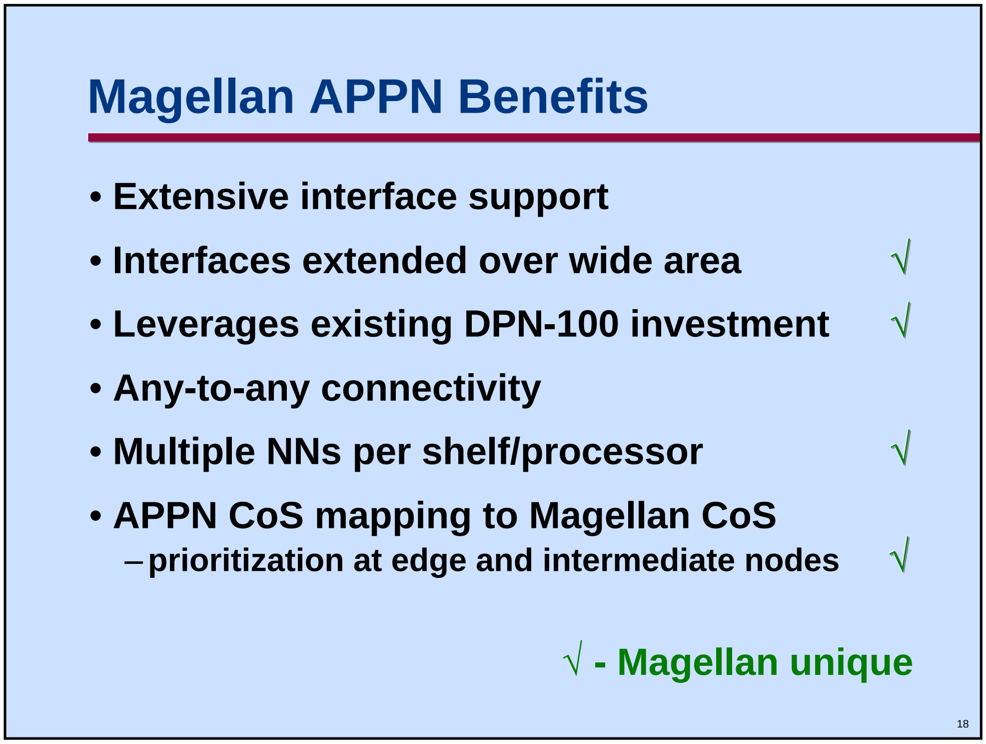
The figure illustrates the protocol stack used by HPR. It includes reliable transport protocol (RTP) which is connection-oriented and provides the reliability. It also includes automatic network routing (ANR) which provides the information required for intermediate nodes to switch data. With HPR, intermediate nodes are not session-aware as opposed to intermediate session routing (ISR) where sessions are terminated and restarted at every APPN node along the path.

With ISR, the reliable transport is provided by using the appropriate level 2 based on the media (LLC2 for token ring or frame relay, SDLC for SDLC, QLLC for X.25). With ISR, intermediate nodes are session-aware, that is, sessions are terminated and restarted at every APPN node along the path.

APPN with HPR provides two key advantages over sub-area SNA (or even APPN with ISR): first, there is a large overhead reduction (reduced processor utilization and memory consumption) that can be noticed at intermediate routing nodes because of the fact that the intermediate nodes need not go far up the protocol stack in order to make a routing decision. Performance is increased while memory consumption is reduced.

The second advantage is HPR’s ability to route around failures in a non-disruptive manner. This is analogous to the Magellan way of routing around failures with the advantage that the capability is extended out to the end devices and is not limited to the Magellan network.

The Passport NN is capable of supporting HPR and ISR sessions simultaneously. It is designed to talk HPR when the attached node supports HPR but will use ISR when required. Additionally, conversion between HPR and ISR is supported, that is, sessions can be set up such that they use HPR for some hops and ISR for other hops.



The items listed above are the key points that differentiate the Magellan APPN NN implementation. These points accentuate the Magellan implementation as a superior solution relative to other APPN implementations. Those items with a check mark (√) are believed to be unique to Magellan's implementation.

With support for an extensive number of interfaces, users have more choice available to them.

By extending the interfaces over the wide area, the requirements on the number of network nodes are considerably reduced.

For those with an existing investment in DPN-100 equipment, support for the DPN-100 interfaces protects that investment.

Protocol conversion is supported to allow any-to-any connectivity between the wide range of supported interfaces.

Support for multiple NNs per shelf or function processor uniquely positions the Magellan implementation for service providers and large APPN networks.

The APPN COS are mapped to the Magellan COS to take advantage of Magellan COS capabilities. Unlike other solutions, the COS prioritization is maintained throughout the network at the edge and intermediate DPN-100 or Passport nodes.

More Magellan APPN Benefits

- DLUR
  - proxy DLUR, no upgrades to PU 2.0 devices
  - dynamic learning of PU 2.0 devices √
- HPR to ISR conversion
- TG accounting √
- Concurrent SNA support eases migration

Nortel commitment to SNA/APPN

√ - Magellan unique

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With the Magellan solution, the PU 2.0 devices can be located virtually anywhere in the network and need not be upgraded as the Passport NN acts as a proxy DLUR for the remote PU 2.0 devices.

Further dynamism is realized with PU 2.0 devices not requiring provisioning at the DLUR. The PU 2.0 devices are learned dynamically when connection requests are initiated by the PU 2.0 devices.

Simultaneous support for HPR and ISR and conversion between them facilitates upgrading of ISR devices to HPR.

Accounting is critical for some organizations (notably service providers).

Migration from legacy SNA to APPN is simplified with Magellan's ability to support both simultaneously.

Nortel has long been committed to evolving its products with the evolution of SNA and APPN by providing value added solutions. Nortel is intent on pursuing this commitment.

Agenda

- Passport SNA/APPN Overview
- **Deployment Examples**
- Summary

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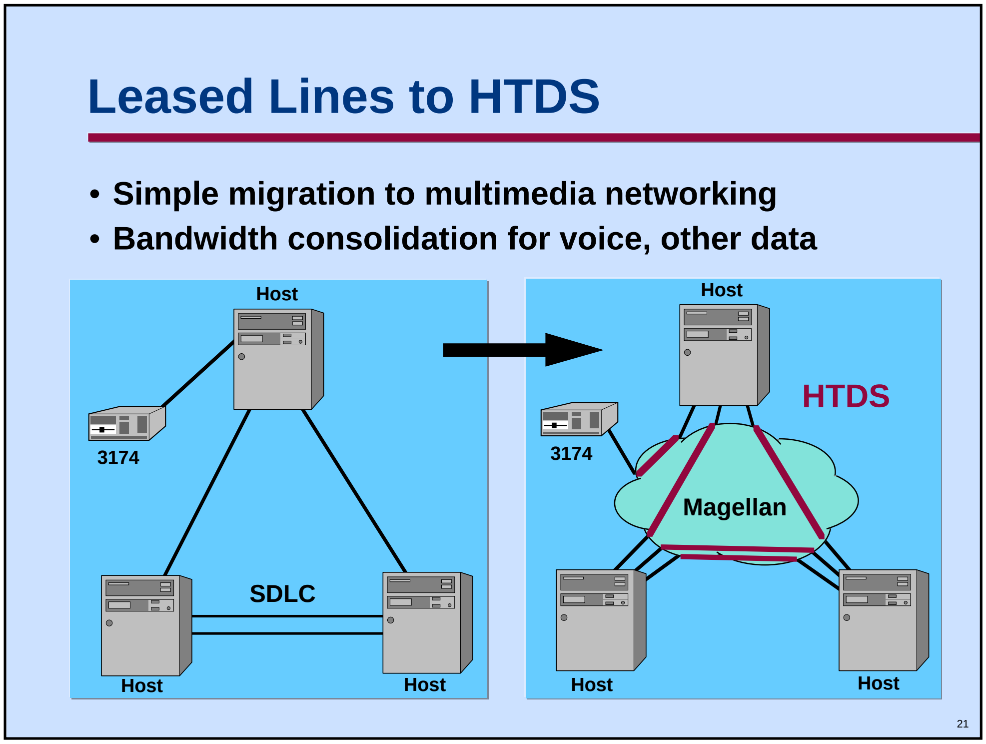
Numerous deployment examples are examined to help you visualize the benefits offered by the Passport SNA/APPN offerings. The examples also illustrate the ease of evolving your network.

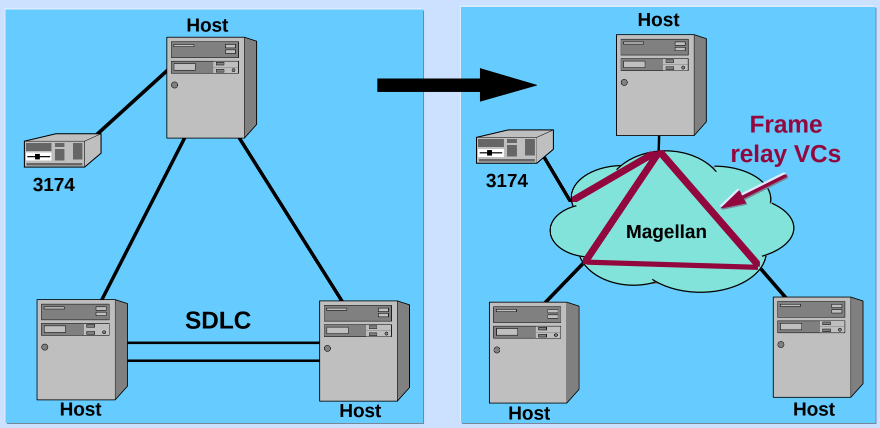


Migrating from SDLC leased lines to HTDS is as easy as it gets. The migration can be done without any changes to the end devices. Multi-link transmission groups can be preserved.

This type of migration allows for complete network consolidation for data, voice, and video. If the backbone network uses asynchronous transfer mode (ATM), then your SDLC lines are now carried over ATM.

Leased Lines to Frame Relay

- Reduced access links, use multiple DLCIs
- Greater flexibility
- Bandwidth consolidation



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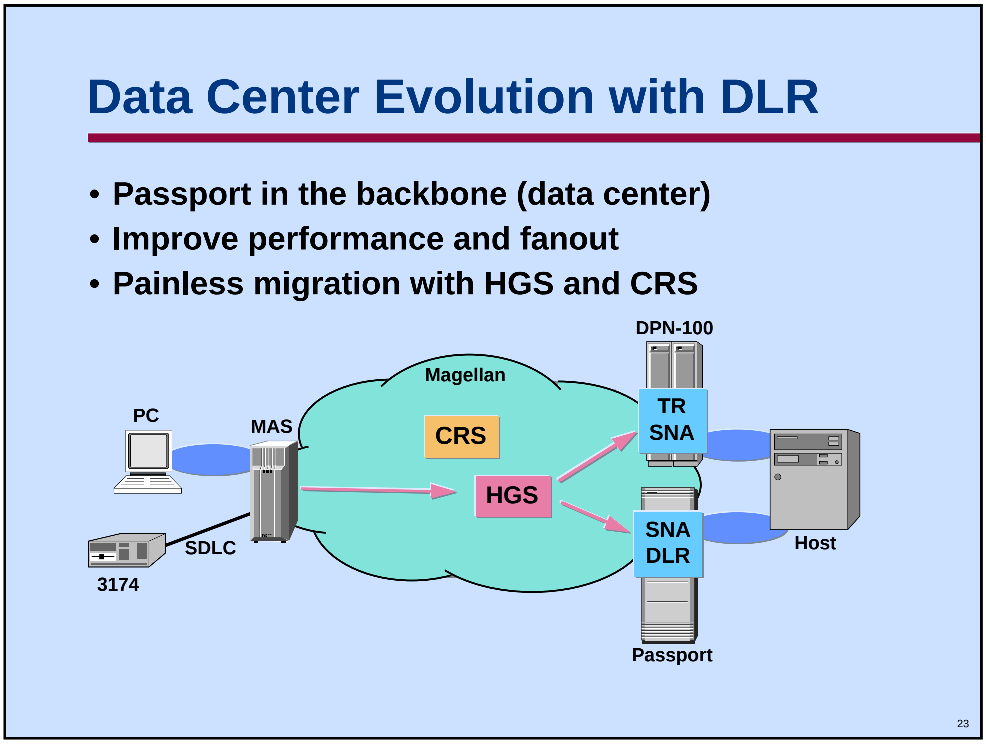
Migrating from SDLC leased lines to frame relay is relatively simple. Typically, hardware upgrades are not required. Reconfiguring an SDLC line to frame relay is trivial.

With frame relay, a single link with multiple DLCIs can be used to emulate the multiple SDLC links. Multi-link transmission groups can be preserved if they are deemed essential.

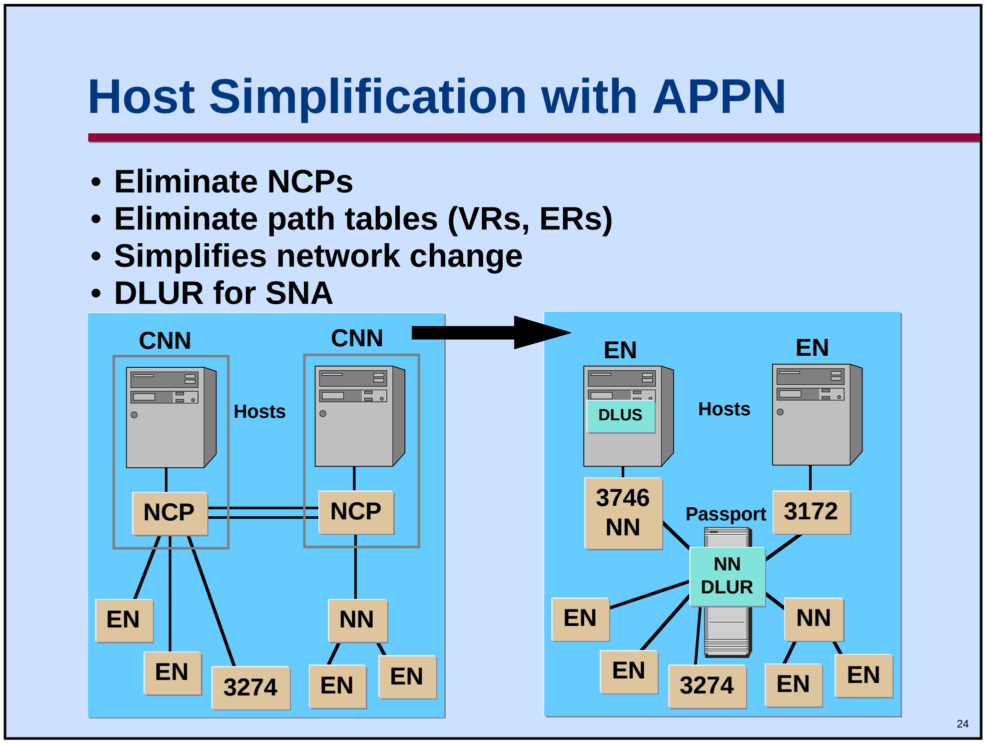
With frame relay, you have the flexibility to reach any other frame relay-attached device without having to increase the number of links on the end devices, you simply have to add new DLCIs.

This type of migration allows for complete network consolidation for data, voice, and video. If the backbone network uses ATM, then your SDLC lines are now carried over ATM.



In order to increase the backbone capacity of your existing DPN-100 network, Passport can easily be deployed to replace the resource modules (RMs). As a general rule, the data center is a key component of the backbone as it remains a high concentration point for traffic because of the hierarchical nature of most networks. The logical conclusion to this is that your host access through the DPN-100 token ring SNA service should be moved to the Passport SNA DLR service to improve performance and capacity, and free the DPN-100 equipment for re-deployment elsewhere.

The migration from DPN-100 to Passport is easily accomplished by adding the Passport SNA DLR service to the existing hunt group list or by using the call redirection server to cut over completely. In either case, the terminal side of the network need not be modified.



The NCP in a network is not a standalone APPN node. It must always be combined with VTAM to form a composite network node (CNN). With APPN, the NCP can be eliminated (along with its software licence) by replacing it with a 3746 NN (or alternatively a 3172). Without the NCP, VTAM can then become a simple EN.

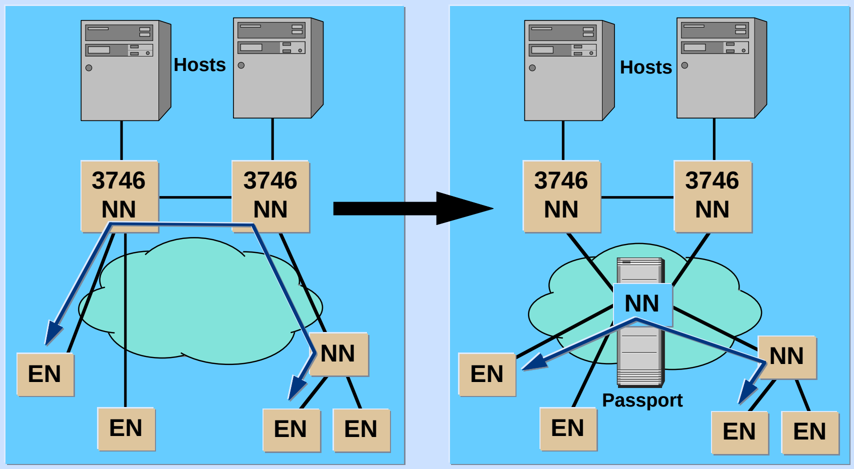
By removing NCPs, the number of sub-areas are reduced or even eliminated. No sub-areas means no path tables, no virtual routes (VRs), and no explicit routes (ERs). For large sub-area networks, time spent defining and managing tables is greatly reduced.

Another obvious benefit of this migration is to bring the dynamism of APPN to the network such that network change becomes trivial to manage.

Legacy SNA devices which must continue to be supported, are handled by the DLUS/DLUR capabilities of APPN. By using DLUR, legacy SNA devices become switched and can take advantage of APPN networking benefits.

Peer-to-Peer Model

- Improved routes/efficiencies
- Improved cost-effectiveness



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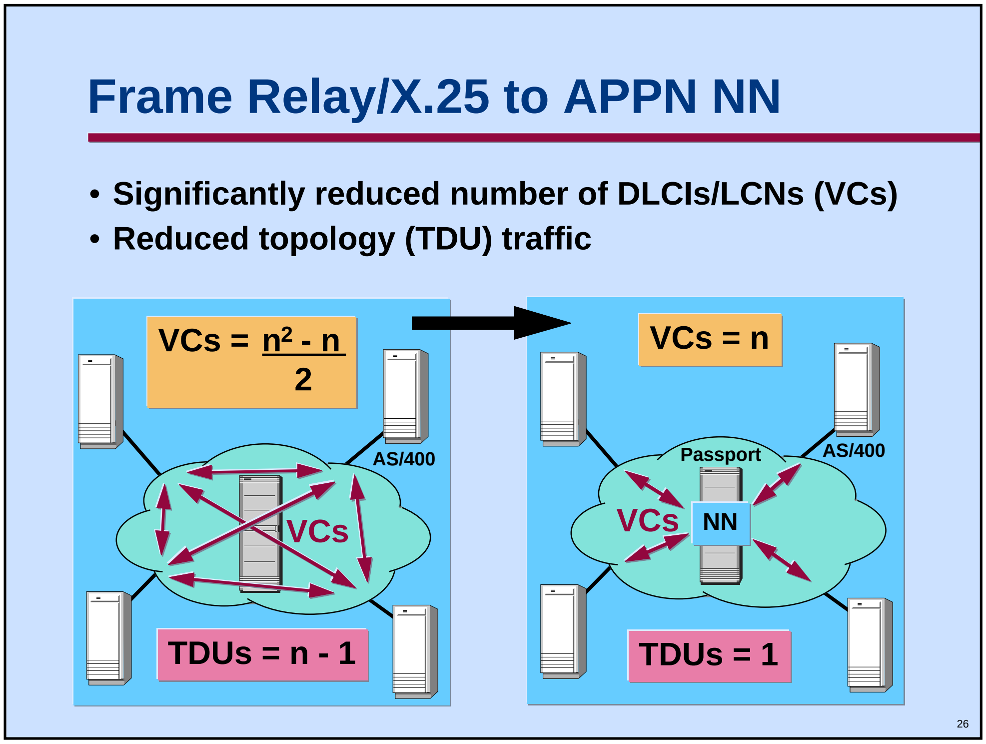
In the above example, sessions between ENs in the network must traverse back to the data center. By introducing the Passport NN in the network, communications between the ENs can be done more efficiently by avoiding having to go through the data center.

As well, instead of having every node with links back to the data center, only a few links are required from the Passport NN back to the data center.



For smaller-scale networks that use the services of a frame relay or X.25 service provider such as is the case with AS/400 or OS/2 networks, introduction of an APPN NN in the network as a value added service can provide significant savings to the end-customer.

First, the number of VCs whether DLCIs for frame relay or logical channels numbers (LCNs) for X.25 in a fully-meshed network can be reduced from '(n^2 - n) / 2' to 'n' where n is the number of APPN nodes in the network. A fully-meshed network is necessary to keep traffic from passing through the network more than once to reach its final destination and to allow the APPN nodes to focus on application processing instead of intermediate routing. As an example, with a 100 node network, the number of VCs is reduced from 4,950 to 100.

Second, the number of duplicate topology data updates (TDUs) can be reduced from 'n - 1' to '1'. As an example, with a 100 node network, a particular node must send 99 copies of the same TDU over its access link to communicate the topology change to all other nodes. With the Passport NN in the network, only 1 TDU is sent to the Passport NN and the Passport NN forwards 99 copies of the frame but there is only 1 TDU on each access link. This is analogous to the use of the broadcast server with the ISRB service. Note that the number can also be reduced from 'n-1' by not activating all control point (CP) to control point sessions over all active transmission groups.

Agenda

- Passport SNA/APPN Overview
- Deployment Examples
- **Summary**

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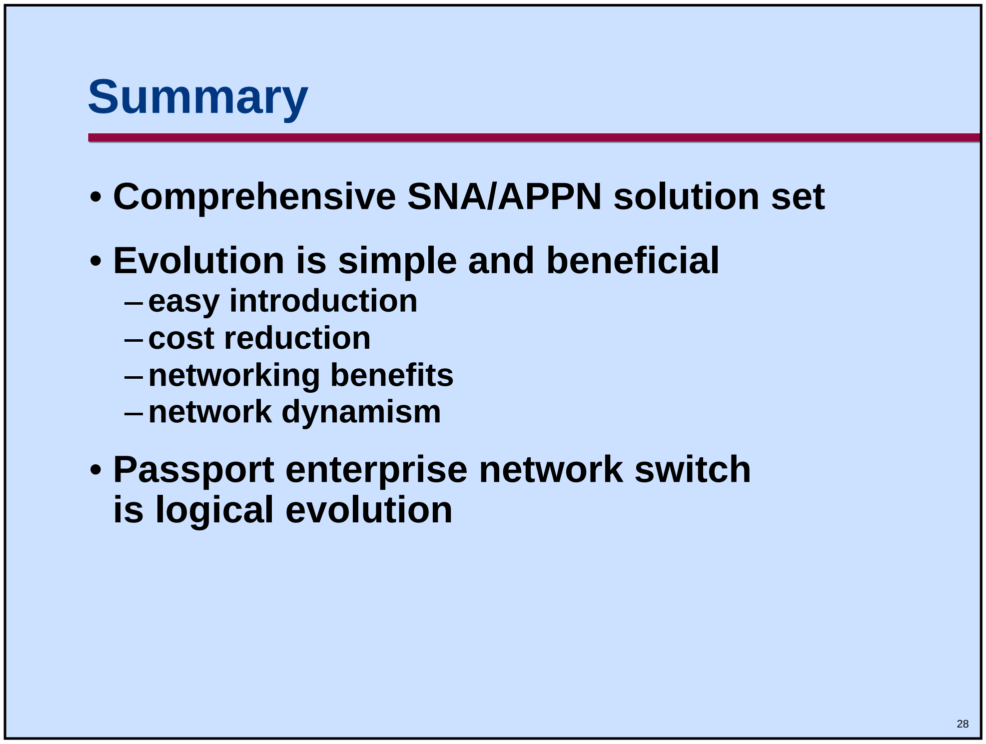

Passport provides a comprehensive set of solutions for adding SNA to the network or migrating existing DPN-100 SNA services. Transparent services are there for simple migration and bandwidth consolidation. SNA DLR brings highly rated existing DPN-100 services to Passport. APPN NN facilitates migration from SNA to APPN.

Whether adding SNA to a Passport-only network or evolving from DPN-100 to Passport, the introduction of these solutions is straightforward. Cost reduction is practically inevitable. Magellan networks offer a wide range of networking benefits that are generally unavailable in pure SNA/APPN networks or other vendors' networking products. All solutions offer varying degrees of dynamism with APPN offering the most. As corporations attempt to reduce infrastructure and support costs, the Magellan SNA solutions facilitate this task.

For existing DPN-100 SNA customers, Passport as an enterprise network switch provides the logical evolutionary next step.