

Datatek Solutions

AN OPTIMIZED PRINT-SPOOLING ARRANGEMENT FOR LMOS NETWORKS

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INTRODUCTION

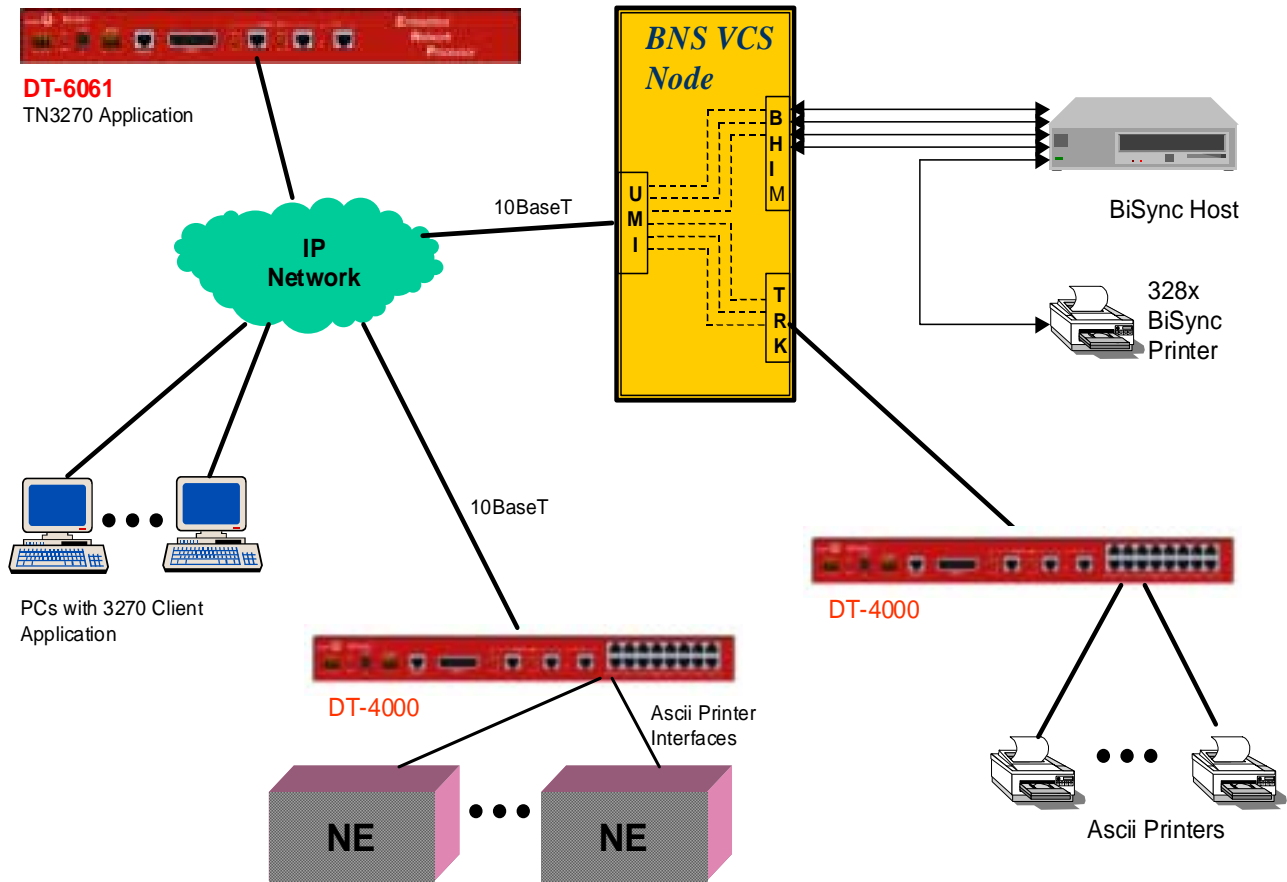
IP networking has become a universal infrastructure underlying virtually all intra-enterprise data communications. This IP revolution has been accompanied by the appearance of new and more flexible kinds of equipment offerings which make it possible to collapse and simplify existing mission-specific distributed networks that work well, yet are increasingly costly to maintain.

Datatek Applications' product family exemplifies this theme, by facilitating the migration of legacy BNS-2000 networks, including their associated peripheral devices, to networks based on IP networking and utilizing newer, more flexible, and more easily maintainable devices. Three key members of this product family are the **DT-4000**, a multi-protocol access device, the **DT-6061** embedded network processor, and the **Universal Mediation Interface Module (UMI)**, a new BNS-2000 module, which provides an IP gateway function. In this document, it will be shown how these products work together to simplify and reduce ongoing maintenance costs in a centralized printing arrangement for LMOS, or any other OS configuration where multiple printers of any type are currently being used.



A TYPICAL EXISTING CONFIGURATION

The following diagram will serve as our reference existing configuration.

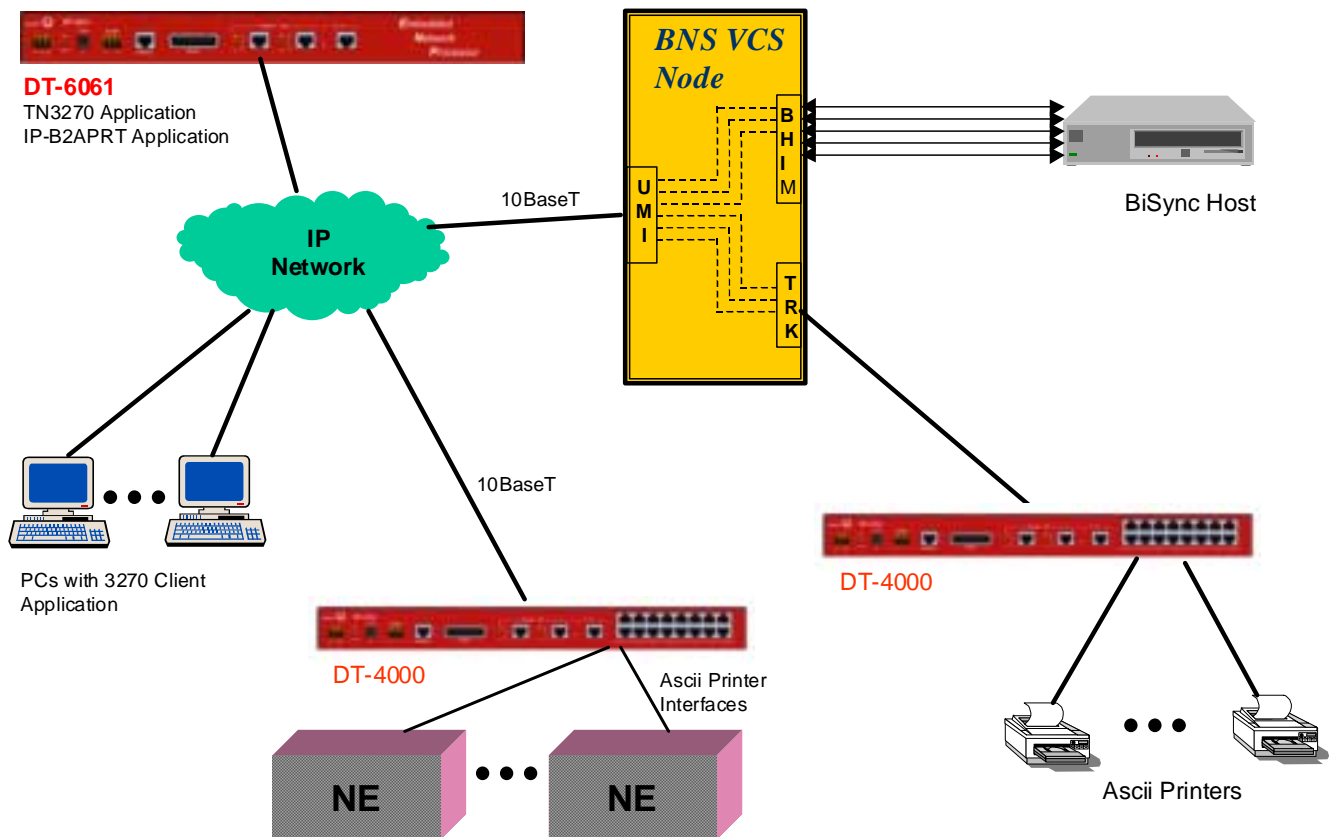


As shown in the preceding diagram, this network is already well along in the process of migrating from a BNS-2000 to an IP-based infrastructure. **DT-4000s** have replaced SAMs as the vehicle of choice for concentration of async endpoints (printers and NE serial ports, in this case). The **TN3270** application running on a **DT-6061** network processor has allowed legacy 3270 terminals to be replaced by PCs running 3270-client software. A BNS-2000 node remains, to provide connections to the BiSync host machine from the IP-connected 3270 clients, and this node contains a **UMI** module providing the IP-to-BNS mediation (i.e., gateway) function. However, there are still many dedicated printers. There is a BiSync printer co-located with the BiSync host, and there is a separate ASCII printer associated with (though remoted from) each NE. It is the inefficiency of operating all these separate printers that this paper seeks to address.



USING IP-B2APRT TO REPLACE THE BISYNC PRINTER

As a first step, install the *BiSync-to-ASCII-Printer (IP-B2APRT)* application onto the existing *DT-6061* network processor. This will allow an ASCII printer to be used in place of the BiSync printer.¹ The next diagram shows the resulting network configuration.



¹ This is the same function performed by the A2B DKAP application.



In this new configuration, the BiSync printer has been replaced by a connection from the BiSync host through the BNS-2000 node and IP network to the **IP-B2APRT** application on the **DT-6061**, via the BiSync Host Interface (BHI) and **UMI** modules. There is also a second connection running from the **IP-B2APRT** application back through the IP network, **UMI**, and BNS network to the **DT-4000** in the lower right, to which has been added an additional ASCII printer. Besides the fact that only one type of printer is being used, all printers have now been consolidated into the same physical location, to bring about a reduction in overall operations and maintenance costs.²

USING IP-SPOOL TO TIME SHARE A SINGLE PRINTER

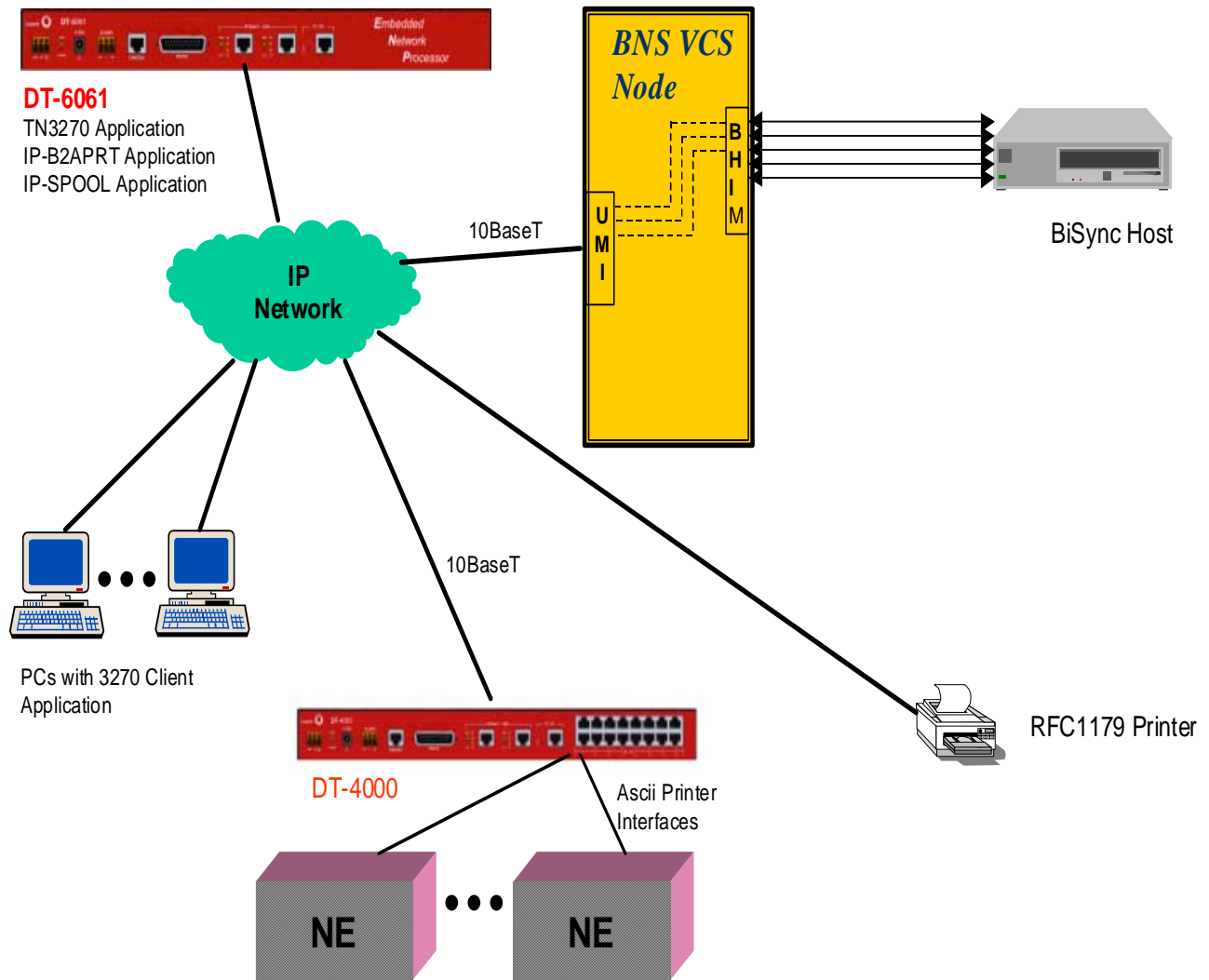
At this point, there is a bank of high-maintenance and probably under-utilized printers, each dedicated to a different legacy device, such as a host or NE console. In contrast, many modern host applications use RFC1179 print spooling to enable sharing of a common printer. The **IP-SPOOL** application for the **DT-6061** network processor provides that same functionality for the dedicated printer interfaces of these legacy systems.³ The next diagram shows how this can be implemented for our reference network, taking advantage of the **DT-6061** already being used.

² For further information on configuring the **IP-B2APRT** application software, please refer to **DT-6061 BiSync to ASCII Printer Application User's Manual**, available on the Datatek Web Site (www.datatekcorp.com).

³ Some users have dedicated stand-alone devices which implement print spooling. The solution described in this document would eliminate the need for such a device, by migrating this print-spooling function to the **DT-6061**, a multi-use device.



An Optimized Print Spooler Arrangements for LMOS Networks



In the diagram above, each of the NE devices still has a permanent connection to a “virtual printer”, which is actually an instance of the **IP-SPOOL** application on the **DT-6061**.⁴ The **IP-B2APRT** application, which is handling print jobs from the BiSync host, is likewise connected to its own **IP-SPOOL** instance. When data arrives on one of these

⁴ Please check the Datatek web site for availability of the **IP-SPOOL** downloadable application software and *User’s Manual*.



“virtual printer” connections, it is spooled for a configured elapsed time after which the data is forwarded to the shared printer via RFC1179 protocol over IP. This is a temporary connection, to allow other **IP-SPOOL** instances or RFC1179-capable hosts to also access the same shared printer.

CONCLUSIONS

In this document, some new ways to reduce complexity and ongoing expenses associated with the use of multiple and possibly diverse types of printers have been demonstrated. Instead of using a dedicated printer for each legacy device, a new **DT-6061** application, **IP-SPOOL**, implements an RFC1179 print spooling function on behalf of those devices in a manner that is transparent to them, so a single RFC1179-capable printer can be shared. The same **DT-6061** unit can be running other useful applications, such as **TN-3270**, which allows legacy 3270 terminals to be replaced by PCs running 3270 client software, and **IP-B2APRT**, which converts BiSync printer jobs to ASCII output compatible with **IP-SPOOL**. Thus a complex legacy network can be migrated to a more modern one consisting of fewer pieces of equipment, resulting in higher reliability and lower maintenance costs.

