

WHITE PAPER

Remote Site Print Servers: The Last Stand for Onsite Servers

Over the past decade, the methods we use to deploy IT services into remote sites has dramatically and irrevocably changed. Years ago, every remote site had its very own dedicated 'server room' equipped with a dedicated domain controller; a Microsoft Exchange server; a file server and a costly, but essential, print server. This extensive hardware setup ran alongside support services to ensure ongoing smooth running and business continuity of remote sites. In recent years however, these locally hosted services have been steadily migrating and consolidating into the central data centre in an effort to reduce IT running costs and to provide centralized administration and data access.

Challenges of Migrating Print Servers to the Data Centre

Whilst most services quite happily have migrated into the on- and off- premise data centre, print servers have remained uncompromisingly challenging to move. The primary issue in this Cloud enabled world, is that print data sets are always large, and frequently colossal, in size. The extent of the size problem depends on a long list of variables, the most critical of which include:

- The original document format
- The printer driver version/language used to spool the document
- The configuration of the end point print device

The resultant size of print data set that needs to be transferred from the data centre to the remote print device can vary immensely, but it is a primary consideration before print server migration proceeds.

However, if both the print server and the print device are on the same local area network (LAN), then size is less of a consideration. A typical LAN speed would be around 1 GB and offer low latency, meaning that even if large print data transfer occurs to the print device, the process is fast and problem free. But, when the print server and device are separated by hundreds or thousands of miles as in a centralized data centre, the combination of low bandwidth and high latency wreaks havoc with printing speeds and provides a critical challenge for both users and administrators.

Accurately Estimate the Cost of Running a Remote Site Print Server

So, with possible bandwidth constraints, it may appear that the print server is best to stay local given that the ideal scenario seems to be to run the server close to the print devices; but this remains a costly option - both in terms of setup and ongoing support of a local print server. Analysts estimate that printing costs tally up to a 3% of company revenue, with 10% of this figure attributable to technical support and help desk calls for printing support¹. Such revenue drains are not surprising when the impact and cost of deploying local technical support is considered each time a patch or upgrade is released. In addition, there are other tangible costs that sit over and above the initial cost outlay expenditure of a dedicated print server (in itself around the \$2000 mark). By also factoring in ongoing energy costs of around \$400 per year², together with support costs that average of \$600 per year³, the overall cost truly emerges. Given these high local costs, consolidation makes economic sense, but bandwidth limitations need also to be addressed.

Consider Compression of the Print Data from the Data Centre to the Remote Site

Once you have considered the full cost implications of running local print servers, it makes sense to consider alternative, cheaper options. One option would be to compress the print data onto a print server located centrally in the data centre. Undeniably, this would dramatically reduce the bandwidth usage and overall time to print. However, once compressed, the print data can no longer be understood and 'translated' by the printer. To rectify this, an independent device is required in the remote site to decompress the data and to route it automatically to the printer. Some vendors offer this functionality in the form of a fully contained print appliance device that will compress data, route centrally and then decompress locally.

These devices are capable of not only decompressing print data but critically, in data sensitive environments, can also offer Secure Pull Printing using a RFID/HID employee card or PIN to provide dual factor authentication. Gartner¹ estimates that deployment of user authentication cuts overall print costs by as much as 10%, avoiding lost, abandoned and endless resubmission of print jobs. In less data sensitive environments where secure 'follow-me' printing is not required, a decompression only print appliance is the perfect solution. Some of these print appliances can decompress multiple print jobs simultaneously and support an unlimited number of printers on a remote site. If more throughput is required, then additional, print appliances can be used together to pool the load.

Notably, the devices themselves do not spool data and so do not need to be configured with print drivers - critical when you are avoiding local technical support overhead. The only configuration required is identifying the IP address/host name of the remote print server to connect to. Indeed, units can be preconfigured centrally by IT and sent to remote sites, requiring only power and network connections to become fully functional. All other configuration is managed from the data centre print server, including any future software updates and essential patches for the devices.

The overhead cost of running remote print appliances compared to a full print server is considerably reduced with each unit only consuming 4-5 watts of power compared to an average of 200 watts. With a lower initial cost outlay, the cost of the print appliance unit typically pays for itself in reduced power and maintenance overhead within 6 months.

Select Vendor-Agnostic Solutions to avoid Endless 'Rip and Replace' Cycles

Typically, printer hardware vendors are keen to solidify annual hardware and support procurement contracts. This often means that it is difficult for user organization to reap the most value from total investment outlay and causes "futureproofing" infrastructure issues. Selecting a vendor agnostic approach allows full utilization throughout the product's full lifecycle and provides the freedom of selection based on economic or feature capability and not from vendor dictated lock-in.

Best Practice for Print Server Centralization

The primary reason of migration of servers into the data centre was to eliminate hardware/software maintenance costs at the remote sites. Any gains will quickly evaporate if the new compression solution requires just as much maintenance as the server it replaced.

Ideally, deployment of any new solution should provide:

- Easy Deployment - Fire and forget; with the possibility of dispatching the unit out to the remote site, pre-configured and ready to go. This way, branch employees with no technical competence can simply plug and go. This centralized install also negates complex local configurations such as firewalls, rule changes or VPN setups.
- Easy Software Updates - Ongoing updates should be executed from a centralized location to eliminate the need for engineers travelling across branches to configure the patches and firmware updates.
- Scalability & Cost – Removal of a print server from a remote site undoubtedly cuts overheads, but it's worth doing the initial calculations to demonstrate the ongoing ROI to management.

Sources

1. Gartner Research "Cost Cutting Initiatives for Printing".
2. Gartner Press Release "Gartner Outlines 7 Practical Ways to Cut Costs in the Data Centre".
3. Quoted from Microsoft Support Costs.

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Contact:

3250 Bloor Street West
Suite 1000, East Tower
Toronto, Ontario, Canada
M8X 2X9

uniprint.net
processfusion.com

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