
Network Virtualization: A survey of the Wintec EPG

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Abstract

Virtualization has become a popular solution for efficiently utilising and consolidating network resources. This poster investigates the use of platform virtualization in the Hamilton ICT industry to determine the viability of developing a new level six diploma module at Wintec.

Members of the Wintec Employer Partnership Group (EPG) were surveyed in order to discover the organisations using, or planning to use, virtualization, popular virtualization platforms and the perceived benefits that knowledge about this technology might have for tertiary graduates.

Keywords

Network Virtualization, Platform virtualization, Industry Alignment, Networking

Introduction

Internal network (platform) virtualization is the creation of a virtual machine (VM) that appears to be another physical computer with an operating system. Multiple VMs can run on the same physical host. This reduces costs for an organisation that desires extended network functionality (Barkham et al., 2003).

Virtualisation, as a topic, is already integrated into a general Wintec School of IT degree networking paper. EPG ICT industry members have been surveyed to determine the current extent of virtualization implementation in their organisations. This poster focuses on an analysis of their responses and the options available, based on these results.

Methodology

Members of the Wintec ICT EPG were surveyed about the use of platform virtualization in their organisations. The perceived value for tertiary graduates was also queried. The data from respondents were collated and analysed, the results of which follow.

Results and analysis

Five EPG members from medium to large organisations responded. Responses from a retired member and a self-employed member have been excluded.

Table 1 gives an indication of the size of each organisation, based on the number of servers and desktops they have.

Organisation	Number of servers	Number of Desktops
1	9	300
2	500	3000
3	378	6500
4	25	1000
5	100	500

Table 1: number of servers and desktops at each organisation

All respondents were using virtual servers at the time of the survey, of which four (80%) respondents had at least five virtual servers. Two (40%) used at least 10 virtual desktops. One respondent, who did not use any virtual desktops, is looking to have 10 or more installed by the end of 2011.

Virtualization platforms were also surveyed. The results displayed in figure 1 indicate that VMware server was the most popular choice followed by Xen. Given the very small sample size, no firm conclusions can be drawn. Barkham et al (2003) highlight the efficiency of using Xen for virtualization. Neih & Leonard (2000) found that VMware is also effective in teaching the topic.

Four (80%) respondents are using Virtual Local Area Networks (VLANs). Four (80%) felt that it would be useful for graduates to possess virtualization knowledge and skills and the remaining respondent (20%) felt it would be very useful for them. There were no respondents who felt it would not be useful. Four (80%) felt that it would be somewhat helpful for a graduate with these knowledge and skills to get a job in

their organisation and the remaining respondent (20%) felt it would not help them.

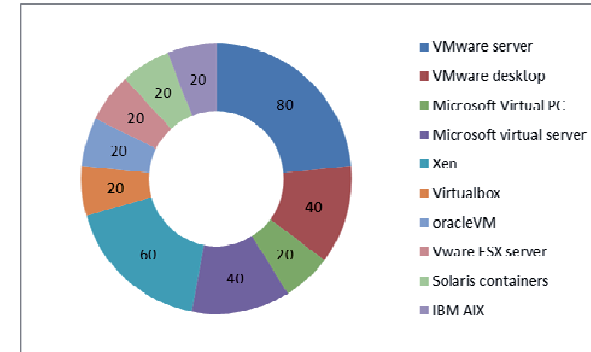


Figure 1: percentage of virtualization platform usage

Conclusion

Platform virtualization is used significantly by all five survey respondents. VMware server appears to be the most popular software platform from these respondents, followed closely by Xen. The authors acknowledge the small sample size and plan to survey a larger sample size in the future. Given the wide adoption of virtualization from the respondents, this survey will be modified to include larger virtual server and desktop numbers. The results give an indication that it may be worthwhile for the Wintec School of IT to develop a seven credit, level six, module dedicated to this topic.

References

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