

◀ 巻末の付録USBメモリに追加資料を収録 ▶

## 第30部

### ネットワーク管理とセキュリティ

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#### 第1章 Introduction

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The WIDE-Netman-WG has been carrying out research and development to make the Internet more manageable and secure.

The WG has worked on the Management Information Base module for the Proxy Mobile IPv6 (PMIPv6) protocol which has been published as a proposed standard [44].

The WG, based on operational and implementation experience in network monitoring and management, reviews the statistics that are widely measured and used. The issues related to accuracy, performance and operations are examined.

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#### 第2章 Back to the basics- measuring the bandwidth utilization statistic.

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One of the most widely observed statistics in everyday network monitoring and management is bandwidth utilization (traffic). A closer look at this statistic reveals a host of issues related to accuracy, performance and operations. This work is ongoing. Please refer the document included in the USB key for more detail.

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#### 第3章 PMIPv6-MIB: A MIB module for Proxy Mobile IPv6

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Network-based mobility management protocol enables

IP mobility for a host without requiring its participation in any mobility related signaling. This protocol is referred to as Proxy Mobile IPv6 (PMIPv6).

The WG defined a MIB module, the PMIPv6-MIB, to monitor and control the mobile access gateway (MAG) and the local mobility anchor (LMA) functions of a Proxy Mobile IPv6 (PMIPv6) entity. The WG has also defined Mobile IPv6 Textual Conventions MIB module containing Textual Conventions to represent commonly used Proxy Mobile-IPv6 management information. This document has now been published as a proposed standard [44].

(Please refer wide-paper-netman-pmip6-mib-rfc6475-00.txt)

[<http://www.ietf.org/rfc/rfc6475.txt>]

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#### 第4章 Network management and the greening of the environment.

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As an aftermath of the Great East Japan Earthquake and Tsunami disaster the WIDE-netman-WG has started looking into the social and environmental aspects of the Internet and its management. While global warming is a major social concern, the Great East Japan Earthquake has shown that overdependence on nuclear energy carries a heavy risk. So, power consumption must be reduced. The ICT industry is a major power consumer.

We examined the use of network management technology to make transparent the activities of ICT devices in intranets, covering the leaf nodes. This

will expose the waste, if any, due to ICT devices that are not in use but powered on and will bolster social awareness of power wastage. Subsequently we look at the relationship between individual ICT devices and network topology and discuss how a greener network configuration can be achieved.

The results are summarised in a paper [45].

(Please refer wide-paper-netman-iwsteic2012-00.txt)

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## 第 5 章 Security by Simple Network Traffic Monitoring.

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Network Security is a multifaceted issue. Knowing what is happening in the network is a very important aspect of network security.

We have shown how data vital to information and network security management can be obtained, relatively easily by basic traffic monitoring and analysis. We introduce a new traffic analysis technique, category transform, to extract more useful information from available data and show the means and significance of looking at traffic characteristics at greater detail. The results are summarised in a paper [46].

(Please refer wide-paper-netman-sin2012-00.txt)

[<http://dl.acm.org/citation.cfm?id=2388608&CFID=236406526&CFTOKEN=94832157>]

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## 第 6 章 Plans for 2013.

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The WIDE-Netman-WG will continue investigation on data collection on a large scale and from small devices.

We will be focussing on

- a. the information that can be gleaned from the ARP packets that are present in all networks and
- b. a framework to evaluate the performance of NMS systems.

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## 第 7 章 Copyright Notice

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