

*A highly programmable, high-performance deep packet inspection blade to help drive new revenue, save costs and improve security*



## IBM BladeCenter PN41



As technology changes continue to accelerate, telecom service providers are seeking new ways to manage the overwhelming demand for bandwidth-intensive applications such as Peer to Peer (P2P) file sharing and Internet video services. One of these challenges is to remain competitive and increase revenue through new services while managing costs caused by these dramatic increases in network traffic. In addition, telecom service providers and organizations must protect mission-critical data.

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### Highlights

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- ***Helps drive new revenue streams by enabling new services and billing models***
- ***Helps reduce costs by more efficiently detecting and managing network traffic***
- ***Helps deliver advanced visibility, service management and security of network traffic***
- ***Helps protect mission-critical network infrastructure***

IBM BladeCenter® PN41 is a highly programmable, high-performance blade capable of helping drive revenue, control costs and protect network infrastructure—key initiatives in today's telecommunications, enterprise and government environments. This new blade combines the powerful capabilities of BladeCenter with the performance of CloudShield®, an industry-leading network service control

and security provider.<sup>1</sup> This combination creates an optimal platform for building and operating next-generation service management solutions.

### **Drive top-line growth through new services**

Since both media and technology move at such a heightened pace, telecom service providers are seeking innovative ways to deliver value-added services to differentiate themselves from the competition. That's why it's important to deliver innovative products and services—to stay on top of the market and quickly respond to customer demands. IBM BladeCenter PN41 delivers the capability to help drive top-line growth through new services, billing models and revenue streams.

The IBM BladeCenter PN41 performs Deep Packet Inspection (DPI) and real-time analysis of network traffic—a powerful approach that delivers network traffic insight and helps organizations stay competitive in the marketplace. DPI can help telecom service providers:

- *Develop new revenue models for voice, video and data networks as well as control traffic on converged 3G or 4G networks with multiple services like VoIP and IPTV.*
- *Increase overall revenue and customer base.*

- *Enable new profit-driven opportunities like customizing advertisements to fit geographic and demographic user preferences.*
- *Design new pricing structures based around subscriber usage.*
- *Evolve with the marketplace.*

### **Help lower escalating costs**

Knowledge is power, and with the IBM BladeCenter PN41 organizations can gain more insight into their network traffic to help save costs. Specifically, network operators can verify that their own traffic is fast and efficient while concurrently identifying and shaping peer-to-peer traffic that may be draining resources. The IBM BladeCenter PN41 helps manage this process by delivering advanced traffic visibility so organizations can recognize where low quality of service or limited bandwidth potentially threatens customer satisfaction and actively address this situation.

A key application sold by CloudShield, Subscriber Services Manager, addresses the problem of increased bandwidth used by peer-to-peer applications.<sup>2</sup> These applications are rarely revenue generators. In fact, they

often steal valuable bandwidth and performance from latency-sensitive applications like VoIP, VoD and online gaming applications. The Subscriber Services Manager application from CloudShield detects and manages traffic from today's P2P protocols and applications to help carriers control bandwidth-hungry applications and deliver high quality of service to their customers.

### **Secure network from cyberattacks**

Data security is an issue every information-based organization faces. Internal and external attacks—executed by everything from hackers to automated bots—can compromise network infrastructure and render a business virtually helpless. As a result, enterprise organizations have little choice but to secure their networks. The IBM BladeCenter PN41 delivers outstanding security to help protect a network infrastructure.

### **Applications and functions:<sup>2</sup>**

The IBM BladeCenter PN41 features a customizable and programmable interface with a custom programming language and development environment. This environment allows the development of a number of key network functions and applications. As a starting

point, CloudShield and its technology partners have applications available to enable a variety of functions on the IBM BladeCenter PN41. Solutions include:

#### **DNS Defender™**

DNS Defender is a software application that helps detect and discard malicious traffic while passing on valid requests for processing through a series of comprehensive protocol filters and other techniques. Leveraging the DPI-focused architecture of the platform; the DNS Defender application makes use of a caching feature that accelerates DNS lookups. DNS Defender is one of the industry's highest performing DNS protection and acceleration solutions. This application is available for purchase from CloudShield.

#### **Subscriber Services Manager**

CloudShield's subscriber-level traffic management helps service providers enable a quality user experience for subscribers. This solution helps detect and prioritize application traffic at the

subscriber level. Service providers can set limits to manage data rates on a per-subscriber basis with application, IP address and time of day/week granularity. This application also tracks and reports comprehensive network reports including; bandwidth consumed by protocol; top bandwidth consumers either by user or protocol type; and most active hosts. The solution helps analyze and manage network traffic from today's P2P protocols and applications, such as Kazaa, BitTorrent and Skype, so that carriers can more effectively manage their bandwidth. This application is available for purchase from CloudShield.

#### **Lawful Intercept**

Governments need to defend themselves against numerous types of threats. One method that governments use is judicially approved monitoring of voice conversations. Lawful Intercept is a solution that intercepts VoIP conversations so they can be tracked and recorded for processing and analysis. This application is available directly from GTEN/Datakom.<sup>2</sup>

#### **IP Transition Gateway (ITG)**

IPv6 usage is on the rise globally and is especially pervasive in Asia. U.S. government organizations have been mandated to transition to IPv6 in 2008. The IP Transition Gateway application translates IPv4 addresses into their IPv6 counterparts and vice versa. As IPv6 networks come online, ITG users benefit from IPv6's additional security and potentially lower costs, while avoiding the extra time and expense of the traditional "dual-stack" transition approach. The ITG allows users to quickly move to IPv6 networks and reap the attendant benefits, while helping defer the need to upgrade routers and other infrastructure components, potentially delivering substantial savings (CloudShield currently intends to make ITG available in the second half of 2008).

Not only does the IBM BladeCenter PN41 and its applications provide network security, it also leverages a vast array of BladeCenter features—values that set the IBM BladeCenter PN41 apart from competitors.

## IBM BladeCenter PN41 at a glance

<b>Processor</b>	Contains an Intel® IXP2805 network processor for use in handling packets
<b>Memory</b>	Contains multiple types of memory including TCAM, QDR and RDRAM. Note: Memory is dedicated to packet processing and is not expandable
<b>Drives</b>	Contains no disk or flash drives
<b>REGEX engine</b>	Contains a Regular Expression accelerator to speed up searches
<b>Front 10 Gb connector</b>	XFP connection to 10 Gb Ethernet (optical)
<b>Capture port</b>	Front SFP connector used for data capture and debugging
<b>Electrical input</b>	12 V dc
<b>Integrated functions</b>	Quad 1 Gb Ethernet controllers; quad 10 Gb Ethernet controllers used in promiscuous mode; local service processor: baseboard management controller (BMC) with Intelligent Platform Management Interface (IPMI) firmware; RS-485 interface for communication with the management module; Automatic server restart
<b>Environment</b>	<b>Air temperature:</b> <ul style="list-style-type: none"><li>• Security blade on: 10° to 35° C (50° to 95° F); altitude: 0 to 914 m (0 to 3,000 ft.)</li><li>• Security blade on: 10° to 32° C (50° to 90° F); altitude: 914 to 2,134 m (3,000 to 7,000 ft.)</li><li>• Security blade off: -40° to 60° C (-40° to 140° F)</li></ul> <b>Humidity:</b> <ul style="list-style-type: none"><li>• Security blade on: 8% to 80%; security blade off: 5% to 80%</li></ul>
<b>Size</b>	Height; 24.5 cm (9.7 inches), Depth; 44.6 cm (17.6 inches), Width; 2.9 cm (1.14 inches)

### For more information:

#### World Wide Web

<b>U.S.</b>	<a href="http://ibm.com/systems/bladecenter">ibm.com/systems/bladecenter</a>
<b>Canada</b>	<a href="http://ibm.com/system/ca/en/bladecenter">ibm.com/system/ca/en/bladecenter</a>

<sup>1</sup> IBM provides only the IBM BladeCenter PN41 hardware. Customer will receive a voucher for the licensed internal code, which customer will receive from CloudShield under the CloudShield end-user license.

<sup>2</sup> All applications are sold, sourced and supported directly from CloudShield or their technology partners. IBM does not sell, support or maintain these third-party applications. Customers are responsible for complying with all laws related to products described in this document.



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