



ContentKeeper Enterprise

Product Review

Version 1.4
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Canberra

Melbourne

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Version Control

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Table of Contents

Introduction	4
Installation	5
Configuration.....	6
Management	7
Accuracy	8
Competition.....	10
Enex TestLab.....	11

Introduction

Product	ContentKeeper Enterprise
Vendor	ContentKeeper Technologies
Hardware	CK 1046LE2
Software	CK Web 123.x

ContentKeeper Enterprise is an Internet Content Filter (ICF) appliance. As tested by Enex TestLab, this 1RU device comes pre-installed with a Linux operating system and ContentKeeper Web v 123.x filtering software. The hardened-kernel Linux OS assures software stability and thus reliability. The front panel possesses an LCD status display with four associated navigation/control buttons; a single serial and two USB ports; and four gigabit network ports. The rear panel has a single VGA port and two USB ports; power switch; power socket; High Availability Module port; and three small exhaust fans.

The following review looks at the ContentKeeper Enterprise product with particular regard to usability of the management interface and product accuracy. Accuracy scores have been gathered from previous tests conducted by Enex TestLab. Comparisons are made with other ICF products tested by Enex.

Installation

Installation could hardly be easier. Being an appliance with software pre-installed by the manufacturer, there is little to do other than mount the device in a rack and plug in the cables. Typically, three network cables are used by the ContentKeeper device: bridge-1, bridge-2 and management. The device is intended to act as a transparent bridge between a LAN and a proxy server or, if no proxy is present, between the LAN and the internet. A third port allows the device to connect with management services at the ContentKeeper data centre; through this port all necessary software updates are delivered automatically. Precise physical configuration can be varied to suit a variety of needs.

Configuration

Configuring appliance network characteristics is straightforward. IP address, subnet, and gateway configuration can be performed directly through the front panel of the device; it has a small LCD and buttons on the front enabling initial configuration as well as at-a-glance monitoring. Alternatively addresses can be set via the main browser-based user interface. A full range of administrative options are available via the browser interface. The appliance can be directly administered by physically attaching a monitor and keyboard; alternatively the management software remotely via the RJ45 management port.

The main screen of the management interface provides over forty options divided into eight categories: Current status, Restart, Administration, Miscellaneous, Blocking/Reporting, General Settings, Operational Settings and Authentication. Having all menu options immediately visible has advantages; there are less mouse clicks required to navigate to the required tool. Also the user is exposed to less frequently used options making him or her aware of useful features that might be otherwise ignored. However, to take full advantage of this type of menu some adjustments to labelling and grouping might be helpful. The group headings, General Settings, Operational Settings and Miscellaneous for example, are not particularly informative – perhaps titles like Network Settings and Hardware Settings might serve better. One gets the impression that items have sometimes been grouped somewhat artificially in order to keep the number of items in each menu consistent. The 'Blocking/Reporting' group could be split up to form separate 'Reporting' and 'Block Policy' groupings. Block-page customisation might be better placed under the proposed 'Block Policy group' and current activity reports could be placed under reporting. Given the large amount of menu-items present, colour coding of groups might assist the eye in finding relevant tools; for example red could be used to highlight those tools likely to be used most frequently. System administrators could even be given the opportunity to set colour schemes to suit their own needs.

In setting up internet access policies, ContentKeeper does not rely on flashy menus with colour coded blocking states that some of its competitors do; rather ContentKeeper makes use of simple tabulated option lists with clear written descriptions of what information is expected from the system administrator. Suitably authorised managers could login and modify policies with little need of networking or other IT experience. Over thirty pre-defined blocking categories are available, providing well for the needs of home, school and office environments. It is hard to imagine how policy administration could be simplified further; it is likely that any such changes would provide only superfluous bell-and-whistles to the GUI that are likely to only reduce interface efficiency.

Management

The password protected web-interface allows for convenient remote administration providing only that the administrator has network access to the ContentKeeper appliance. While some familiarity with the software is required in order to find the required settings, it is generally very clear as to what is then expected of the user. All controls and text boxes are clearly labelled and may even be supplied with descriptive sentences where the developers feel there might be any misunderstanding. If this were not enough online help pages are also available. A minor irritation was the tendency of many screens to load already scrolled to the page bottom, thus obscuring the information that is likely to be needed first.

User groups and IP-ranges can be reassigned to policies and new policies developed as readily as they were set during initial configuration. Agents and IP listening ranges are also readily adjusted. Wherever there is a need to restart ContentKeeper in order for changes to take effect this fact is made quite clear before any attempt is initiated by the administrator.

To assist in keeping the product up to date, all new sites visited are registered with the ContentKeeper data-centre and analysed and its classification redistributed worldwide every hour. As a result a new undesirable site need only be visited once or twice worldwide before it is analysed and classified meaning that most users will never encounter it if provided that they are blocked from accessing that class of material. Furthermore a quick check of the status display on the appliance will show that it is attempting to receive updates from the ContentKeeper data centre once every minute.

Options are available for editing and designing block-pages (and also coaching and authentication-pages). Standard ContentKeeper pages can be edited from within the management console or else the administrator can specify the address of a replacement page and the method (GET or POST) of transferring web-page specifications (such as URL and category) to the user-defined page.

Basic reporting features are contained within the ContentKeeper package with more advanced reporting tools being available for purchase if required. With only a couple of mouse clicks it is possible to identify the top sites being visited or blocked or else the most active user. The 'Webalizer' tool provides a breakdown of internet usage which lists sites and data volumes by month day and hour. It is a simple matter to thus see what material is being viewed (or blocked), who the highest users are, and when the busiest times for net activity are. The optional Advanced Reporting Module extends this capability by offering scheduled reports which can automatically be sent to relevant managers. Reports can be produced in HTML, DOC and CSV formats which gives great flexibility to use the data in word processors, spreadsheets and web content.

Accuracy

Accuracy testing further proves the value of this product. Enex TestLab has performed ICF testing for both government and private agencies. In testing a product for suitability in home and school environments we have grouped 900 web-pages into classes paralleling OFLC classifications. Five classes were used:

- Black: ACMA black-listed sites deemed unsuitable for classification by the OFLC.
- R/X: offensive material likely to be classified as R or X.
- M: material suitable for mature audiences.
- PG: material that may be considered offensive to some people.
- G: material considered suitable for all audiences. (These may be considered as false-positives intended to show that a filter is only blocking material as is necessary.)

Enex TestLab recognises the impracticality of insisting upon perfect scores in any given category; anyone assessing ICF effectiveness needs to recognise the inherent changeability of internet sites and the subjectiveness involved in web-page classification. We believe that material with a lower classification is more difficult to separate from false-positive ('G-rated') material and thus we suggest a sliding scale of acceptable blocking rates as shown in the following table. We should note also that none of the ICFs tested by our company have satisfied these strict requirements for every class when pitted against our full battery of test pages. Furthermore, other agencies, such as the Internet industry Association (IIA), may set their own standards of acceptable blocking rates.

Classification	Acceptable Blocking Rate	Rate Achieved by ContentKeeper
Black	≥95%	96.7%
R/X	≥90%	75.3%
M	≥85%	67.0%
PG	≥70%	71.8%
G (false-positives)	≤10%	4.6%

ContentKeeper passes on 'Black', 'PG' and 'G' classes, but falls 15-18% below the limits specified above for the other two classes. Note that these percentages refer to the percentage of live sites blocked, so that currently inactive test-sites are not counted when calculating scores. Measured against ACMA black-listed sites, ContentKeeper scored an impressive 97% - a fraction of 1% behind Vendors D and G (see below). Tests employing smaller sample sizes (60 sites as opposed to 300 and thus more prone to statistical error) showed ContentKeeper scoring 93% behind two other vendors scoring 95% and 97%. Within the Black class the lowest result was for terror related web-pages; this is a pattern typical of other ICFs. It should further be recognised that this category contains a relatively small sample of sites (12 at time of latest testing).

In the 'R/X' class the poorest performing category was 'Drug-advocacy' (including advertising) where 65.3% of sites were blocked and 66.7% for 'Gross content'; these scores are, nonetheless very good compared to many other ICFs. Conversely, 'Adult' material was blocked extremely well (97.3%). About 72% of Hate related material was also blocked.

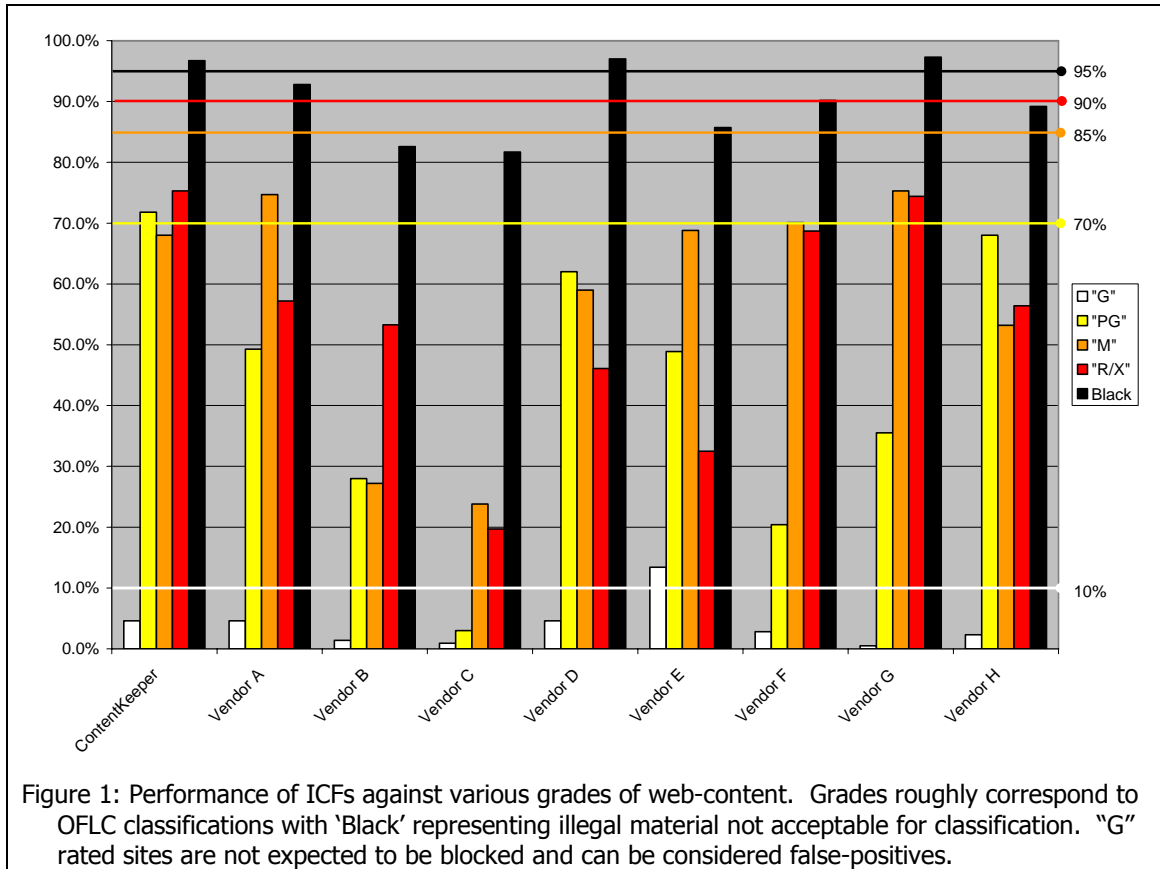
In the 'M' class, ContentKeeper performed very well against Nudity and Swimsuit/Lingerie (80% and 84% respectively). Of more concern is the ability of this product to pick up profanity (45%) and sexual issues (63%). Profanity especially is poorly countered by many content filters. Of course the ubiquity of such language does make this a difficult issue, but it should be noted that the sites chosen for this test were selected for their frequent and gratuitous use of such language.

Continuing to the 'PG' class, both Religion (85%) and Abortion/Sexual-health (89%) are, adequately blocked according to the standards suggested above. On the other hand, very poor performances were logged for Politics (25%). Given that many will see little reason to block some of the categories in this class it is not surprising that the ContentKeeper makes little impact on those where no specific targeting occurs (ie: CK categories do not entirely encompass all Enex defined categories such as Nude-art/Graffiti and Filtering software).

A separate study also conducted by Enex TestLab revealed that, upon request, ContentKeeper blocks 80% of News/Sport/Weather web-pages with another 10% being partially blocked. Also, 80% of financial sites were blocked. These issues may be of particular interest for business deployments of ICFs where private research by employees might be a distraction from regular duties.

We believe that ContentKeeper is able to adequately block the most undesirable of sites from internet users while keeping access open to the vast majority of innocent sites. At the same time there is still certainly room for improvement – particularly in the PG, M and R/X classes. Also there was a tendency to block some food related web-sites (15%), although we recognise that one such failure was due to the site relating to healthy foods and thus infringing on the medical health category.

Competition



Overall we rated this product first in a field of nine products. Note that the 'PG' and 'M' classes were not included in the final IIA reports, though we did briefly comment on these categories for completeness. The score against the 'Black' class was the third highest (and within 1% of the leaders). Against the 'R/X' and 'PG' categories ContentKeeper rated the highest; with ContentKeeper being the only vendor exceeding our standard for 'PG' categorized material. The 'M' class score was the fifth highest of the nine. Passing of 'G' rated sites was average and satisfactory.

Administration of filtering policies is very simple. No other ICF observed would be considered, by Enx TestLab, to be easier to use in this regard. General navigation through the management software is also commendable. Other products may have more attractive interfaces, yet rarely does this lead to improved simplicity of operation and thus they fail to significantly improve of ContentKeeper in this manner.

Enex TestLab

The TestLab, originally launched in 1989 as the RMIT IT TestLab, is now a division of Enex Pty Limited.

As a leading independent provider of testing services for hardware systems, software and user experience, the TestLab is ISO 9001:2000 certified and an Australian Government Endorsed Supplier. The company has offices in Canberra, Sydney and Melbourne.

Regularly published in several magazines of note, namely Technology & Business and Roam, the TestLab has provided product comparison reviews for publication for over 17 years.

The TestLab provides a wide range of services designed to assist clients with risk reduction. Notably, these services include:

- **Manage procurement risk.** Technology procurement can be extremely expensive if you don't get it right. The TestLab can reduce the risk of product choices with our comprehensive quality assurance services and systems testing.
- **Improve product development.** The TestLab can support your new application, web-site or ICT hardware product throughout the development lifecycle. We help ensure the final product meets user needs, fulfils business requirements, is easy to use and technically robust.
- **Increase return on investment.** The TestLab's quality assurance services take the gamble out of product selection and development. Our customers can be confident their technology investments will provide value for money and tangible benefits to the organisation and end users.

In addition, the TestLab provides a number of services that improve user experience when using technology-based projects. These services include user centred design, user needs analysis, usability testing and accessibility consulting and testing.

A member of the Australian Internet Industry Association (www.iaa.net.au), the International Information Systems Security Certification Consortium (www.isc2.org) the Information Systems Audit and Control Association (www.isaca.org) and the Information Systems Security Association (www.issa.org) and as such the TestLab adheres to the professional codes of conduct required by those organisations.

Our broad range of skills combined with the latest tools and techniques are the proven equation for success. We give you peace of mind whether choosing or designing technology systems.

