OX Protect
Securing and Safeguarding Subscribers, Families and Connected Devices

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OX Protect

• OX Protect for Families
  Creating a safe internet experience for parents and children

• OX Protect for Malware
  Creating a secure experience for consumers and their connected devices
OX Protect for Malware
The Internet is a Dangerous Place

Ransomware makes malware particularly costly – in time and money

Phishing continues to increase in volume and effectiveness

**Ransomware**
- Makes malware particularly costly in time and money
- Example: Kaspersky found that ransomware attacks cost businesses an average of 1.7 million USD

**Phishing Stats**

<table>
<thead>
<tr>
<th>Phishing Volumes</th>
<th>Annual Phishing Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 million</td>
<td>$70.2 billion</td>
</tr>
<tr>
<td>3 billion</td>
<td>Phishing costs Brands</td>
</tr>
<tr>
<td></td>
<td>$28.1 billion</td>
</tr>
<tr>
<td>36 billion</td>
<td>Phishing costs Corporate IT</td>
</tr>
</tbody>
</table>

Sources: (1) Again (2) Cisco (3) IID/Wichivia
GROWTH IN THE INTERNET OF THINGS

THE NUMBER OF CONNECTED DEVICES WILL EXCEED 50 BILLION BY 2020

Source: Cisco
IOT Devices are inherently vulnerable

IoT threats put Christmas toys on the naughty list

A Malware Outbreak Is Bricking Insecure IoT Devices

The Mirai botnet ripped through the Internet of Things last year, turning scores of improperly secured devices into an electronic army capable of launching powerful DDoS attacks. Now there’s a new malware strain targeting those devices, but its aim is not to enslave them. It wants to knock them offline for good.
How to Protect IOT Devices?

On-Device Protection?

- IOT devices do not/cannot have on-device malware protection
  - Increases price too much
  - Not enough CPU/RAM
  - Who would pay for updates?

- Too many devices to make sense
  - Malware protection on every smart lightbulb?
How to Protect IOT Devices?

• Network-based threat detection is the only way to go
  • Can detect threats to any device on the network
  • Can proactively stop devices connecting to malicious sites
  • Allows connections to legitimate sites
What are my options as a Consumer

If I want Network Security?

• Option 1 – Buy a Box for my Home
  • E.g. Norton Core
    • $279
    • Max 20 devices
    • 1 Year of AV only
  • E.g. Bitdefender Box
    • $129
    • 1 year of AV only
    • Then $99 per year

• Option 2 – Enable Security on my Internet Connection
  • Pay monthly through by existing bill
    • E.g. $5 per month
    • Or as part of a premium bundle
  • Protect all devices in my home
  • Always guaranteed latest protection
  • Protect against phishing
  • No boxes to break or go obsolete
Are other Service Providers Offering this?

Sky Broadband Protect

Sky Broadband Protect shields your family’s or business broadband pac from malware-infect.

What is Telstra Broadband Protect?

Telstra Broadband Protect helps protect you and your family on devices connected to your Telstra home broadband service, without needing to install any software.

Telstra Broadband Protect is included in all eligible Telstra Home Internet Bundles purchased after 23rd August and Network Protect is automatically activated on those services.

Telstra Broadband Protect includes:

Network Protection

Network protection helps protect every device connected to your Telstra home broadband from websites hosting known malicious content, scams or viruses. Find out how to use network protection.
Introducing OX Protect for Malware

- Provides a secure connectivity experience:
  - Protects all devices using the broadband/mobile network
  - Protects against malware and phishing
  - Malware alerts via SMS or Push Notifications
  - Works even with encrypted traffic
  - Detects infected devices, attempts to download malware, attempts to go to phishing site etc.
Introducing OX Protect for Malware

• For the Consumer
  • Provides a secure connectivity experience
  • Protects all devices in the home
  • Protects against malware and phishing
  • Works even with encrypted traffic
  • Seamless deployment – no boxes to buy
  • Starts working immediately

• For the Service Provider
  • Potential revenue opportunity
  • Or differentiation opportunity
  • Increases subscriber stickiness and trust
  • Low infrastructure costs
    • Based on DNS not DPI technology
  • Easily upgradable to family protection/parental controls
UNSAFE SITE

The site noware.co.uk has been blocked by OX Protect, because it contains potentially harmful content.

This means it may contain a virus or be a phishing site designed to steal your personal details.

Continue anyway

Block rule: security-blacklist
OX Protect for Families
The Internet can be worrying for Families

How do I keep my family safe?

• 75% of parents said they had looked for or received information or advice about how to help their child manage online risks*
• Four out of 10 parents look to their ISP for information about how to keep their family safe online*
• More than 9 out of 10 parents said they mediated their child’s time online in some way*
• In the UK 25% of families with children use content filtering to keep them safe online*

* 2016 Ofcom report on internet safety measures “Strategies of parental protection for children online”
What are families looking for?
Data from UK Government Survey

- Parents use a range of approaches to manage online access:
  - Technical tools including content filters and other forms of technical mediation
  - Regularly talking to their child about managing online risks
  - Rules or restrictions around online access and use
  - Supervision when online

* 2016 Ofcom report on internet safety measures “Strategies of parental protection for children online”
What Tools are available to Families?
Wide range of existing options

- **Software**
- Install and maintain software on every device you want to protect
  - Net Nanny
  - Kaspersky Safe Kids
  - Norton Family Premier
- Feature-Rich
- $50-$90 per year
What Tools are available to Families?
Wide range of existing options

- Devices
- Circle with Disney
  - $99, £99, €99
  - Parental Control for the home
  - “Circle Go” app provides VPN
  - Also bundled on some routers
- Clean Router
  - $150
  - $30 per year
What Tools are available to Families?
Wide range of existing options

• Cloud Services
  • Various free DNS-based services e.g.
    • OpenDNS (Cisco)
      • Has 85M users
  • Basic malware/phishing protection
  • Internet Content Filtering
    • Quite basic
    • But widely used
What’s the Opportunity for Service Providers?

Adding value to the Network Pipe through Security

- Service Providers are ideally placed to offer
  - Parental Controls / Content Filtering As a Service
- Easy to enable – no software or devices to buy or install
- Various Pricing Options
  - Monthly Fee/Premium Bundle/Included for Everyone
- Service Providers around the world are starting to provide Parental Controls /Content Filtering services
  - All UK Operators
  - Australian Operators

What's the Opportunity for Service Providers?
Example Offerings

Are you keeping your family safe online?

BT Parental Controls is our FREE service you can use to help stop your family seeing content you don’t want them picking the best filter level or choose which websites you want to block.

Plus
- Safeguard all the computers, tablets and phones connected to your Home Hub
- Switch it off and on again automatically, with you
- Set it up quickly and easily; no downloads

Do you want BT Parental Controls?
- Yes please
- No thanks

Find out more

Sky Broadband Shield

Sky Broadband Shield is our online tool that lets you block the websites that you don’t want in your home. You can choose a setting from PG, 13 or 18, and customise it to block or allow specific sites. The new Watershed feature means you can choose to have the 18 setting come into effect daily for a period of time that you specify.

You can change your settings at any time.

Custom
Effective 05:30 to 21:00

Watershed (18)
Effective 21:00 to 05:30

Block & allow websites
Nothing added

PG
Suitable for everyone

13
Suitable for teens & older

18
Suitable for adults only

Custom

Blocked categories:
- You haven’t added any categories yet.

Unblocked categories:
- Social networking
- Online games
- Pornography & adult
- Suicide & self harm
- Weapons, violence, gore & hate
- Anonymous, flashing & hacking
- Drugs & criminal skills
- Dating
- Phishing & malware

Save all settings
Introducing OX Protect for Families

Pure Service – No software or special devices needed

Core Features:

- Full control over content categories allowed
- “Pause Internet” capability
- Bedtime/Homework Time
- Subscriber Black & Whitelists
- Optional Mobile App for Settings, Supervision & Notification
- Blocking alerts via Push Notifications or SMS
OX Protect for Families
Advanced Features

- Parents can manage settings for different profiles individually
- Configure Multiple Filtering Profiles
  - E.g. Mom, Dad, Child1, Child2
- Devices are typically auto-detected and provisioned
- Each device is associated with a profile
  - E.g. “Neil’s iPhone X”
  - E.g. “Panasonic TV”
Deploying OX Protect
OX Protect
Service Provider features

• Deploy in your own DCs
  • Scales to extremely high bandwidth with minimal HW investment
  • NFV Compatible
• DNS-based not DPI
  • Turnkey Solution
• Can filter encrypted traffic
• Optional Mobile Apps and Web GUI
• Fully documented REST APIs for integration
How does OX Protect Work?

• Network Filtering enabled by PowerDNS platform
  • Used and trusted by large service providers for many years:

• DNS-based filtering used by most UK & Australian service providers since 2014
  • Proven, reliable and extremely fast
NEVER STOP INNOVATING