

NitroSecurity Intrusion Prevention Overview for OSSIR (Groupe SUR)

Marc Berlow, Cressida France

Cressida Int'l Company History

- Created by Systems Administration and Security Experts in 2001
- Distributes and supports software across all European markets
- Main products:
 - NitroSecurity Suite
 - Intrusion Prevention Systems
 - Ecora
 - Configuration & Change Reporting, Baseline & Compare settings, Automated Patch Management, Devices Security
 - Akonix
 - Real time solutions for Secure, Managed, Productive Enterprise Instant Messaging
 - MQ Message Assurance
 - Track, Record, Audit, Replay, Edit WMQ Messages
 - RepliWeb
 - Industrialized Strength Disaster Recovery cross platform tool, replication, distribution, synchronization



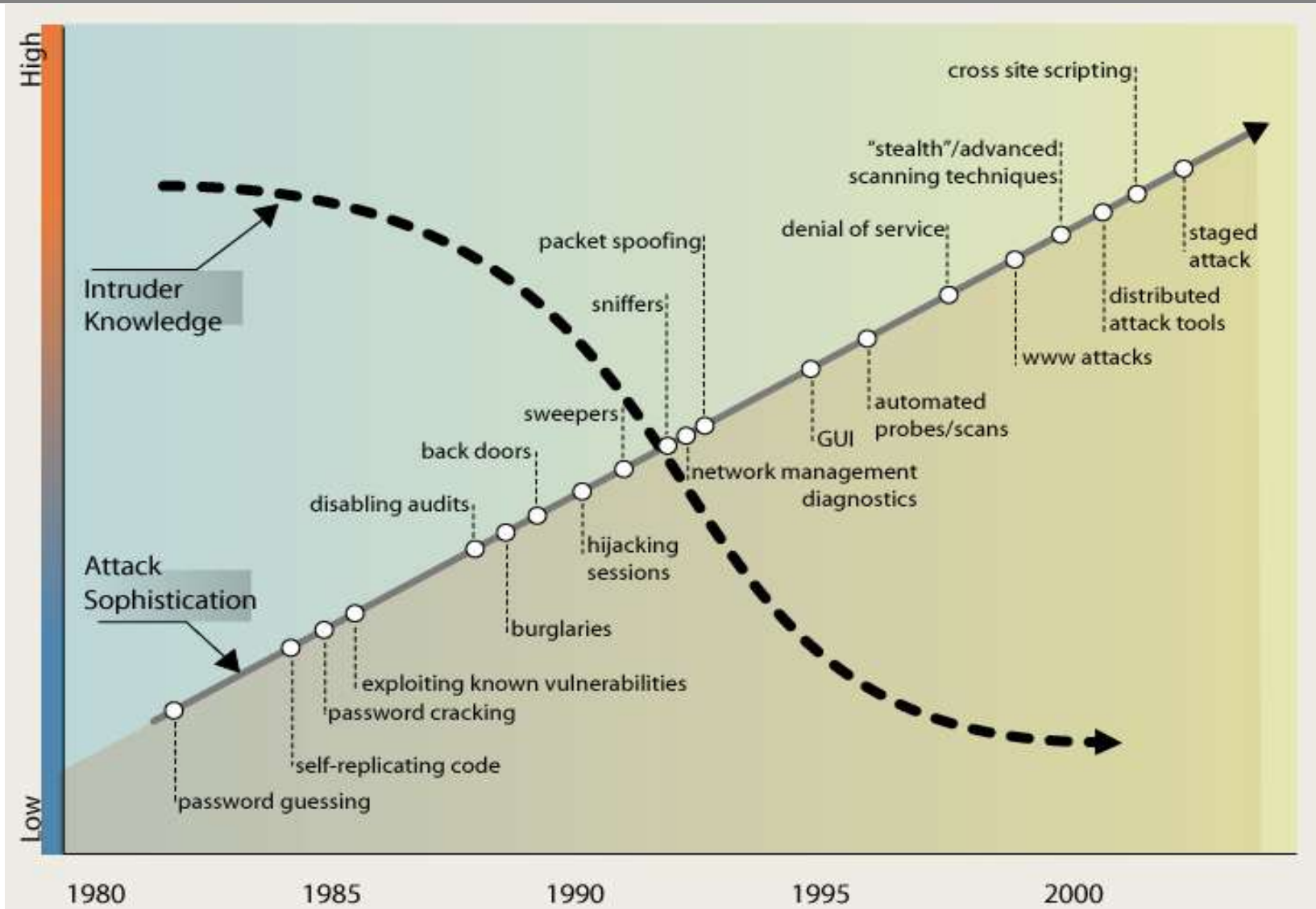
NitroSecurity Company History

Technology origins U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) (Sister to Los Alamos, Sandia, Oakridge)

Products

- **NitroEDB- High performance embedded relational database**
 - Built to handle exact, high speed data demands of nuclear power industry
 - \$30M and 65 man years invested
 - Commercialized in 1999 for the OEM community
- **NitroGuard IPS-In line intrusion prevention solution**
 - Open Source Debut in 2001 at DEFCON
 - Commercialized in 4th Quarter of 2001
 - 2002 version 3.0 introduced new Technologies for Detection, Analysis including integrating in-line SNORT, and Remote Communications
 - 2003 version 4.0 introduced improved Device Analysis and more comprehensive Management Console queries and analysis capabilities

So many attacks, so little time...



NitroGuard Concepts

- **Next Generation Network-Based Intrusion Prevention System**
 - No client agents
 - No version management or interoperability issues
 - Scalable to any size enterprise
- **Ultra-fast database**
 - Same database used to correlate data from all U.S nuclear power plants
 - Highly scalable
 - Technology embedded in upcoming Cisco monitoring products
- **Enterprise management console**
 - Enterprise wide correlation from all IPSs
 - Robust reporting



A Layered Security Approach

Security Threat	Firewall	Antivirus	NitroSecurity
Limits access to parts of the network	FULL		FULL
Translates internal addresses to external addresses	FULL		No IP Address
Protects against virus attacks		FULL	PARTIAL
Protects against worms		FULL	PARTIAL
Protects against combination worm/intrusion attacks (Nimda, CodeRed)		PARTIAL	FULL
Protects against intrusion			*FULL
Prevents outbound attacks			*FULL
Prevents outbound critical data loss			*FULL
Enforces policy rules (porn, gambling, webmail, IM, etc)			*FULL
Logs intrusion alerts for post-analysis			*FULL

NitroGuard Security Architecture



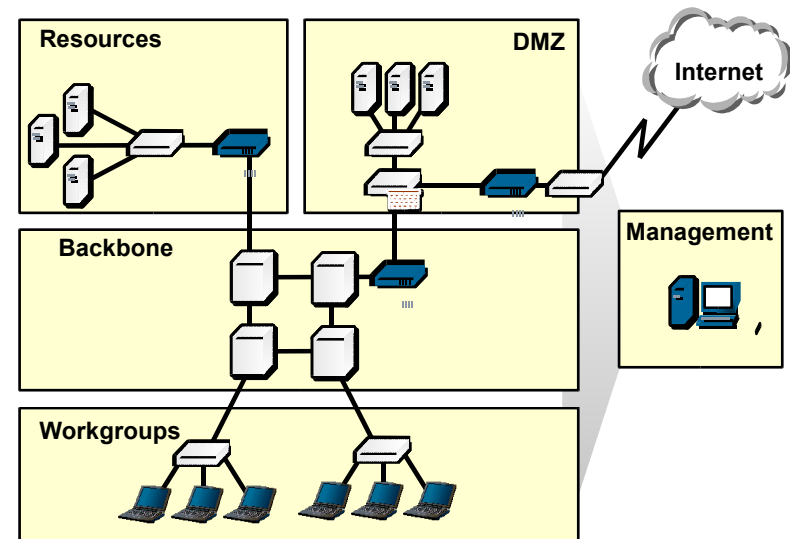
NitroSecurity IPS Family

- **Enterprise-Scale, In-line IPS**
 - Active (IPS) or promiscuous (IDS) mode in single device
 - Real-time event correlation and analysis across entire enterprise via embedded security database architecture
- **Integrated Signature/Anomaly Detection**
 - Industry's largest signature (3600+) library
 - Fully customizable signatures/reports
 - Protocol and behavioral anomaly support
- **Stealth Operation Mode**
 - Industry's only IPS that has no IP address using in-band management
 - Invisible to typical network attacks

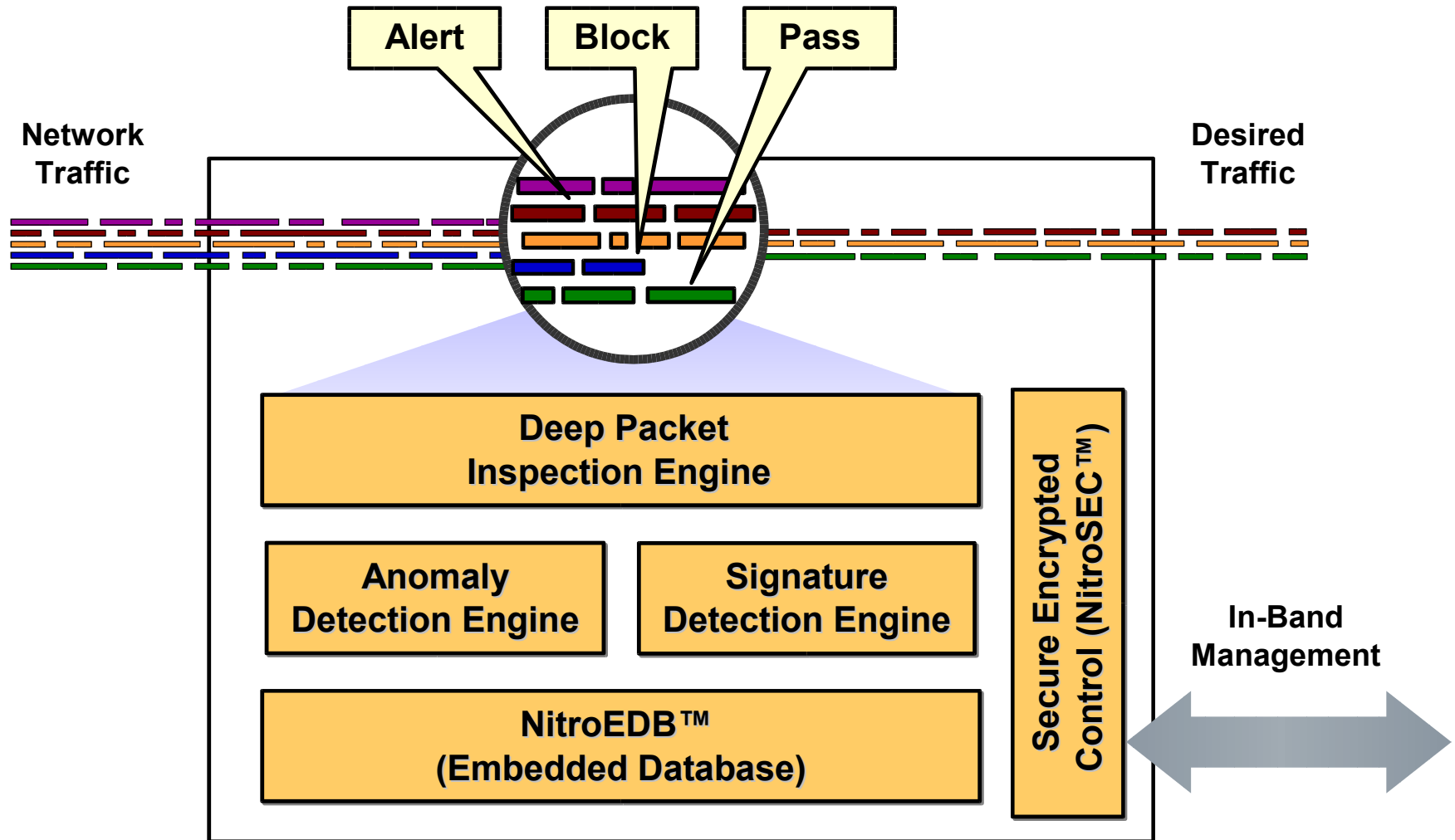
NitroSecurity IPS



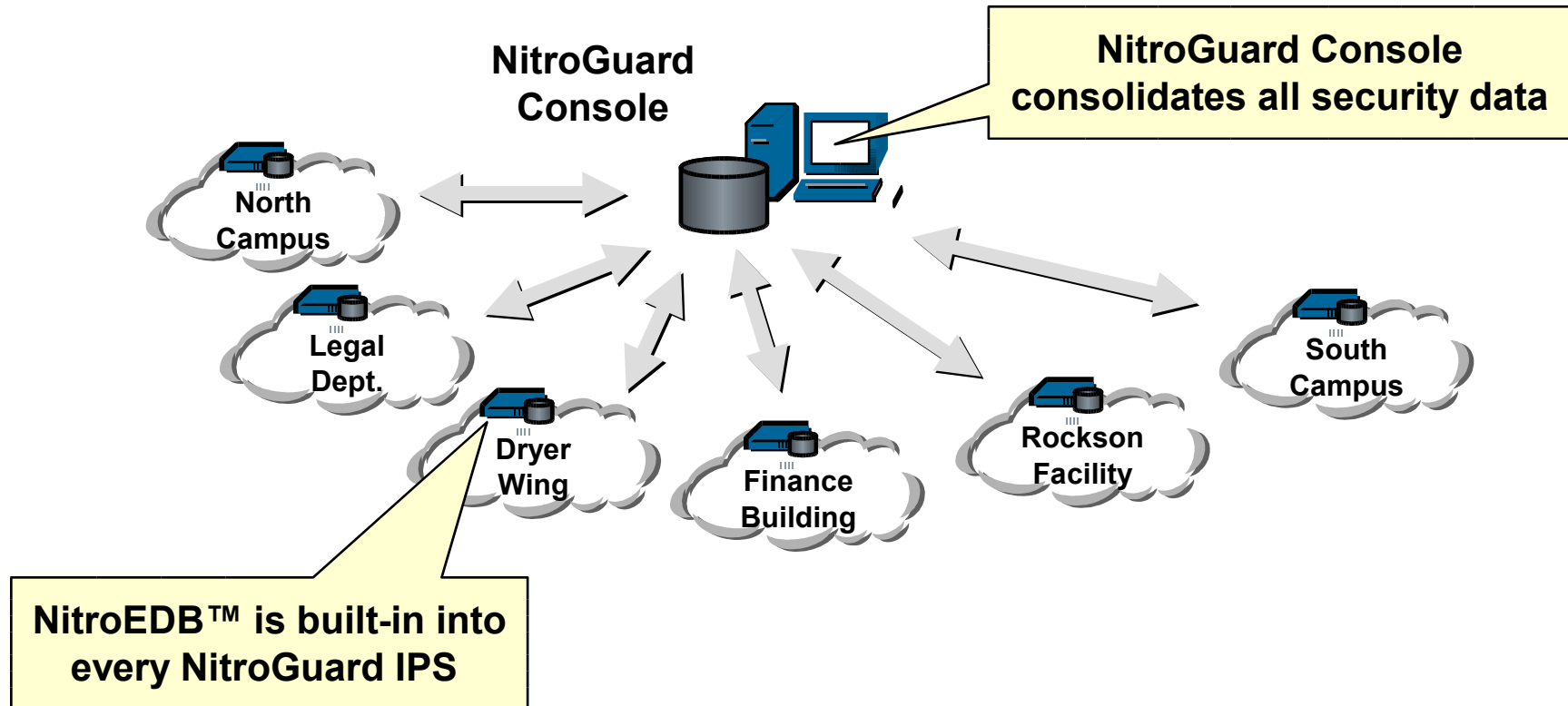
Hardware either supplied by NitroSecurity or purchased based on exact specifications



NitroSecurity IPS Architecture

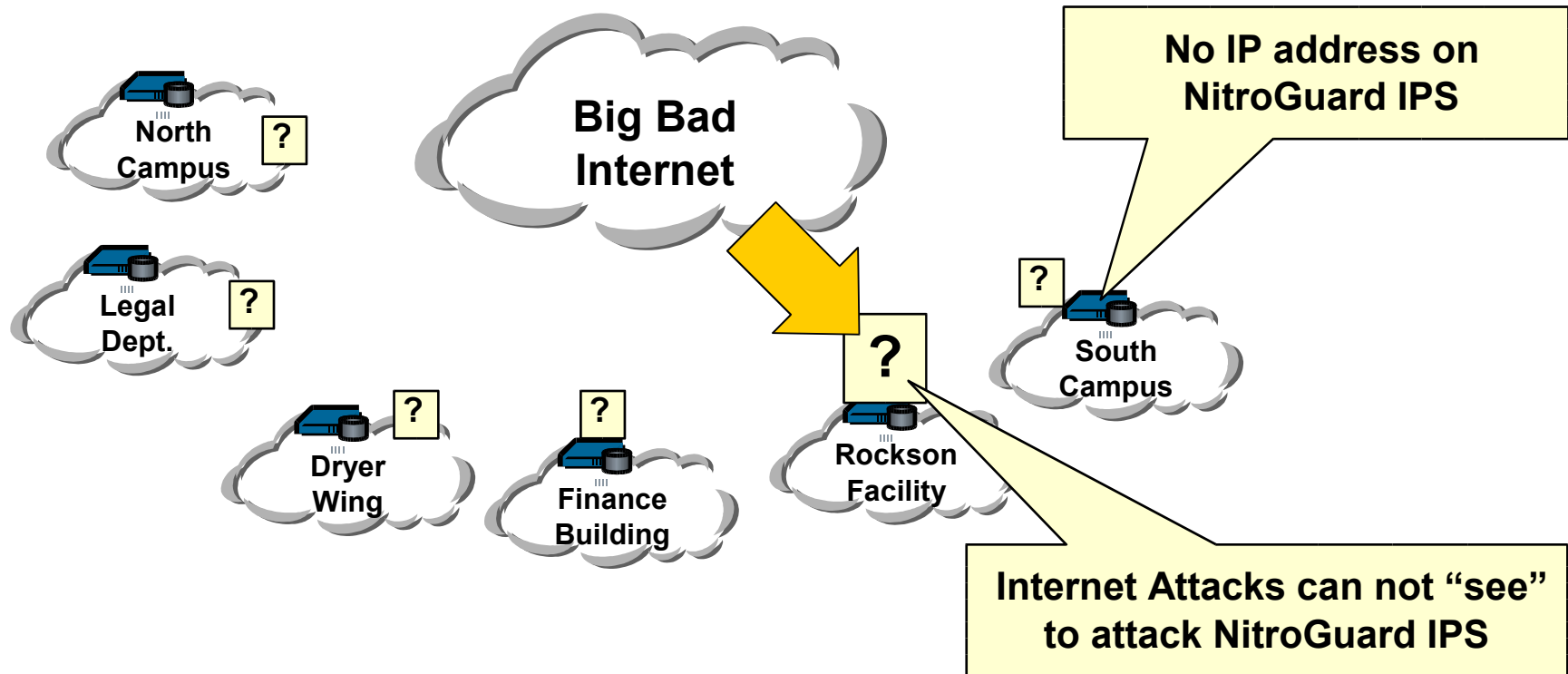


NitroEDB™ Overview



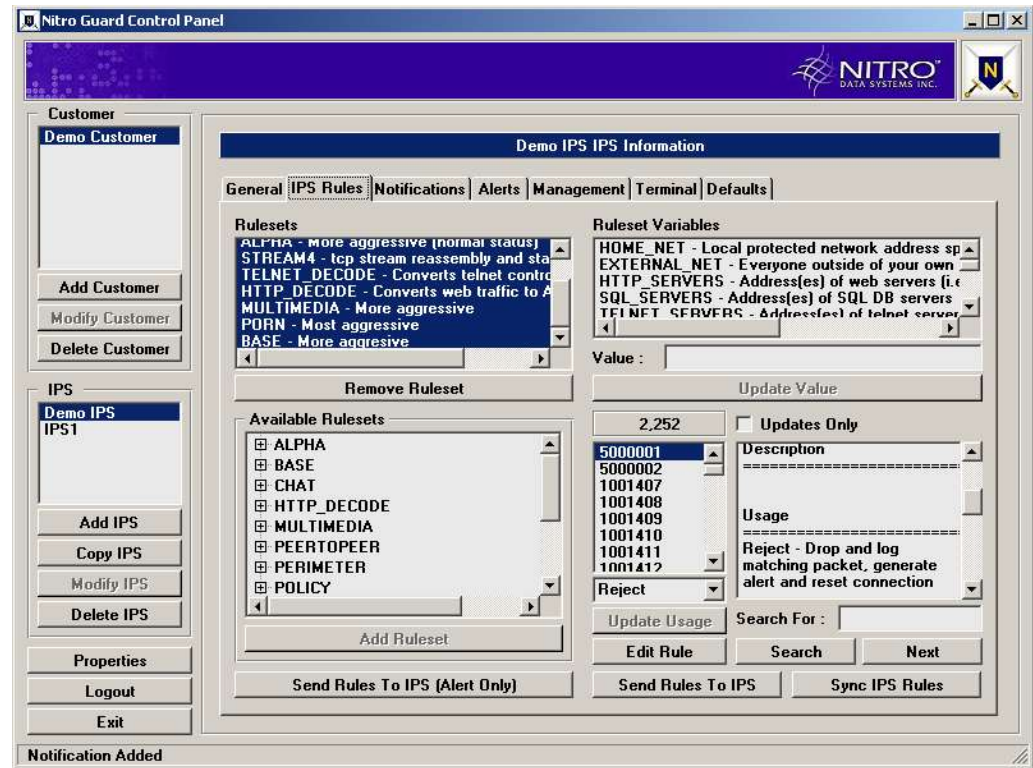
- **NitroEDB™ enables real-time, enterprise-wide correlation of security data across an unlimited number of NitroGuard IPS**
- **Traditional IPS designs decrease in performance and correlation capabilities as security data increases**

NitroSEC™ Overview



- NitroSEC™ makes NitroGuard IPS virtually impossible to attack (and does not require out-of-band management)
- Traditional IPS designs use an IP address for management (or require an out-of-band management interface and network)

NitroSecurity Demonstration



Please contact us at www.cressida.info for a live demo



Group

Group1

Add Group

Modify Group

Delete Group

IPS

FIRST IPS

Add IPS

Copy IPS

Modify IPS

Delete IPS

Properties

Logout

Exit

Properties

Information | Settings | Alert Queries | EMail | Conditions | Custom Rulesets

System Information

Nitro Guard Control Panel
Version 4.2.3 - 3440:10F6
Copyright (c) 2002, 2003 by Nitro Data Systems, Inc. All rights reserved.

Rule Server Status

Connection Ok

Company Information

Nitro Data Systems, Inc.
(208)552-5332
info@nitrodata.com

Status And Alerts

Last Check: 11/13/2004 16:25:00.000 Next In: 00:00
Currently Checking: <disabled>

Notifications

Last Check: 01/07/2005 08:47:53.000
Currently Checking: <done checking>

Rules And Software

Latest Rules: 11/29/2004 17:40:31.000 Latest Software: Version 4.2.3
Last Check: 11/30/2004 10:40:00.000 Next Check: 01/07/2005 08:48:00.000
Currently Checking: <inactive>

Rule Change Info



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Properties

Information Settings Alert Queries EMail Conditions Custom Rulesets

User ID and Password

User ID Verify

Password Verify

Editor Invocation Command

Command

Command must contain '<FileName>', which will be replaced by the name of the file to edit.

Status And Alerts

Check Status And Alerts Every :

Hours (0 - 23) Mins (0 - 59)

Rules And Software

Check For Rules And Software Every :

Hours (0 - 23) Mins (0 - 59)

Notifications

E-Mail Server Information

Host Port

Username Password

Title From

Connection Speed kbs



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Properties

Information | Settings | Alert Queries | EMail | Conditions | Custom Rulesets

Queries

- !CountSegment**
- !CountSegment10
- !CountSegment30
- !CountSegmentAll
- !CountSegmentDay
- !CountSegmentHour
- !CountSegmentMonth
- !CountSegmentTotal
- !CountSegmentWeek
- !CountSegmentYear
- !Report Header
- Alerts
- Count
- Delete
- Distribution
- Failure
- IPS Status
- Log
- Overview
- Severity
- Summary
- XRef ^DstIPs
- XRef ^DstPorts
- XRef ^Protocols
- XRef ^SigIDs
- XRef ^SrcIPs
- XRef ^SrcPorts

Query Name

!CountSegment

Query Definition

```

CLEARFORMAT
FORMAT TIME(' ', ' ', LEFT, 20, 'mm/dd/yyyy hh:nn:ss')
FORMAT TIME(' ', ' ', LEFT, 20, 'mm/dd/yyyy hh:nn:ss')
FORMAT NUM(' ', ' ', RIGHT, 13, ' ')
FORMAT NUM(' ', ' ', RIGHT, 13, ' ')

SELECT  ??P6??, ??P8??, COUNT(*), SUM(Alert.EventCount)
FROM    Alert
WHERE   Alert.IPSID IN (??P22??)
        AND   Alert.LastTime >= ??P6??
        AND   Alert.LastTime < ??P8??
??P9??  AND   SrcIP IN (??P10??)
??P11?? AND   SrcPort IN (??P12??)
??P13?? AND   DstIP IN (??P14??)
??P15?? AND   DstPort IN (??P16??)
??P17?? AND   Protocol IN (??P18??)
??P19?? AND   SigID IN (??P20??)

```

Add Modify Delete

Save Queries To File

Merge Queries From File



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FIRST IPS

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Copy IPS

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Properties

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Properties

Information | Settings | Alert Queries | **EMail** | Conditions | Custom Rulesets

E-Mail Addresses

seksten@cressida.info

E-Mail :

Add New EMail

Modify Selected EMail

Delete Selected EMail(s)

E-Mail Groups

Group :

Add New EMail Group

Modify Selected EMail Group

Delete Selected EMail Group



Group

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Properties

Information | Settings | Alert Queries | EMail | Conditions | Custom Rulesets

Condition Name

Detail at 10:00

last 24 hrs

Condition Type

Daily At Specified Time

Daily At Specified Time

Every So Many Minutes

Specified Alert Rate

Weekly At Specified Day/Time

Monthly At Specified Day/Time

Yearly At Specified Month/Day/Time

IPS Failure

IPS Failure For Group

Condition Notes

Condition : Detail at 10:00

Add New Condition

Modify Selected Condition

Delete Selected Condition



Group

- Group1

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Delete Group

IPS

- FIRST IPS

Add IPS

Copy IPS

Modify IPS

Delete IPS

Properties

Logout

Exit

Properties

- Information
- Settings
- Alert Queries
- E Mail
- Conditions
- Custom Rulesets

Custom Rulesets

Group:

Description:

File: ...

Add Modify Delete Export



Group

- Group1
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- Delete Group

IPS

- FIRST IPS
- Add IPS
- Copy IPS
- Modify IPS
- Delete IPS
- Properties
- Logout
- Exit

FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Name: FIRST IPS

- Auto Get Alerts
- Auto Update Rules

Connection Speed: 1500 kbs

IP Address: www.fi Port: 1

IPS ID: 6C6B:1149

Key: [.SVzK}0bSAA8tCCBvc`h6Gd&Fk*2]]1

Register IPS Unregister IPS

IPS Status Test Interface

Notes

Empty text area for notes.

Status And Alerts

Last Check: 2004-11-25 17:41 Success: Yes Alert Count: 8



Group

- Group1
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IPS

- FIRST IPS
- Add IPS
- Copy IPS
- Modify IPS
- Delete IPS
- Properties
- Logout
- Exit

FIRST IPS IPS Information

General IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Rulesets

- VIRUS - Most aggressive
- POLICY - More aggressive
- PERIMETER - Bogus IP Addresses -- Most
- STREAM4 - tcp stream reassembly and sta
- HTTP_DECODE - Converts web traffic to A
- PEERTOPEER - Most aggressive
- MULTIMEDIA - Most aggressive

Remove Ruleset

Ruleset Variables

- AIM_SERVERS - List of IP Addresses of AIM servers for snort rules that inspect AOL Instant M
- ALLOWED_INBOUND_BOGONS - Outbound IP address(es) which are part of the local network
- ALLOWED_OUTBOUND_BOGONS - Inbound IP address(es) which are part of the local netwo
- DNS_SERVERS - List of DNS servers (e.g. 192.168.15.3 or [192.168.15.3,172.16.61.4]).
- EXTERNAL_NET - Everyone outside of your own networks (e.g. can be \$HOME_NET or \$

Value :

Update Value

Available Rulesets

- ALPHA
 - Least aggressive (all alert)
 - More aggressive (normal status)
 - Most aggressive (always reject)
- BASE
- CHAT
- HTTP_DECODE
- MALWARE
- MULTIMEDIA
- PEERTOPEER
- PERIMETER
- POLICY
- PORN
- RPC_DECODE
- SECURE APPLICATION GATEWAY
- STREAM4
- TELNET_DECODE
- VIRUS

Add Ruleset

Send Rules To IPS (Alert Only)

2

Updates Only (0)

- 1003584
- 1003585

Use of a BitTorrent peer to peer file transfer utility was d

Usage

Alert - Log matching packet and generate alert

Priority : Class

3 : policy-violation

Reference

url.bitconjuror.org/BitTorre

Signature

tcp \$HOME_NET any -> \$EXTERNAL_NET any (msg:"P2P BitTorrent announce request"; flow:to_server; content:"GET"; depth:4; content:"/announce"; distance:1; content:"info_hash="; offset:4; content:"event=started"; offset:4; classtype:policy-violation; reference:url.bitconjuror.org/BitTorrent/; reference:url.www.p2pwatchdog.com/packet_bittorrent.html; sid:2180; rev:2;)

Alert

Update Usage

Search For :

Edit Rule

Search

Next

Send Rules To IPS

Sync IPS Rules



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FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Notification Alert Query

Query Name	Level	Time Frame	Duration	Item
Summary	IPS	Last	Day	
<none>				(Comma delimited)
Alerts				
Count				
Delete				
Distribution				
Failure				
IPS Status				
Log				

Groups

Empty text area for Groups

Name : last 24 hrs

Add New Notification

Modify Selected Notification

Delete Selected Notification

Notification Notes

Empty text area for Notification Notes

Log To

EMail

Syslog



Group

Group1

Add Group

Modify Group

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FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Get Alerts

Query View

Query Name	Level	Time Frame	Duration	Item
Summary	IPS	Current	Day	
Delete				
Distribution				
Failure				
IPS Status				
Log				
Overview				
Severity				
Summary				

<-- Execute

Alert Details

First Time :

Last Time :

Duration : Count :

SrcIP:Port :

DstIP:Port :

Protocol : Action :

Goto Rule

Lookup

Show Packet

Capture Packets

Show Info

Show Notes

<< < > >>

Delete Selected

Delete Queried

Export Selected

Export Queried



Group

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IPS

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- Properties
- Logout
- Exit

FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Get Alerts | Export Results | Alert View

Query Name: Summary | Level: IPS | Time Frame: All | Duration: | Item: | <-- Execute

Drill Down | Alerts | Sig->Src | Sig->Dst | IP->Sig | Src<->Dst | < Sort > | Clear

```

=====
= Report      : Summary All
= IPS         : Group1 : FIRST IPS : 2
=====

```

SigID	Count	Total	Usage	Description
1001403	2	2,760	Alert	MISC UPNP malformed advertisement
1003048	3	106	Reject	MISC WATCHLIST - 20030613-window size 0xDA00
1002981	4	49	Alert	SCAN Traceroute UDP
1001358	6	44	Alert	ICMP Time-To-Live Exceeded in Transit
1001375	12	34	Reject	ICMP Communication Prohibited by Filtering
1002873	5	33	Reject	NETBIOS name-query
1000276	2	30	Reject	ICMP L3retriever ICMP PING
1002486	5	19	Alert	ICMP PING zeros
1001316	4	18	Alert	ICMP Port Unreachable
1003583	4	8	Alert	SMTP Non-SMTP Server Emails
1001299	2	7	Alert	ICMP Traceroute
1003604	1	7	Drop	EDONKEY connection to server
1001322	1	6	Alert	ICMP Echo Reply
1003583	1	6	Drop	SMTP Non-SMTP Server Emails
1001379	1	3	Alert	ICMP Large ICMP Packet
1001986	1	2	Alert	WEB-CGI adcycle access
1001375	1	1	Alert	ICMP Communication Prohibited by Filtering
3116054	1	1	Alert	DECODE_TCPOPT_BADLEN
Total =	56	3,134		



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Delete Group

IPS

FIRST IPS

Add IPS

Copy IPS

Modify IPS

Delete IPS

Properties

Logout

Exit

FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Firewall Rules

Read From IPS

Write To IPS

Edit

Export To File

Import From File

IPS Rules

Read From IPS

Write To IPS

Edit

Export To File

Import From File

Messages

Get IPS Message Log

Statistics

Get IPS Statistics

tcpdump

Command Line Arguments

Start

Stop

Read Results and Export To File

Software Upgrade

Versions: IPS, Snort, netfilter/iptables

Get Current Software Version

Start IPS

Stop IPS

Upgrade Software

Reboot IPS



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FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | Defaults

Help Export Results Clear

```

----- Group1:FIRST IPS -----
root$ |

```



Group

- Group1
- Add Group
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- Delete Group

IPS

- FIRST IPS
- Add IPS
- Copy IPS
- Modify IPS
- Delete IPS
- Properties
- Logout
- Exit

FIRST IPS IPS Information

General | IPS Rules | Notifications | Alerts | Management | Terminal | **Defaults**

Home Mask :

Compression Times

Minute(s) Since Last Alert Zero means NO compression

Minute(s) Since First Alert compression

Alert Check

Last Time GMT

Anomaly Information

Anomaly (> (Min and Not in Ports)) or (> Max)

Anomaly	Min Limit	Max Limit	Port List
No Destination	<input type="text"/>		
High Port To High Port	<input type="text"/>	<input type="text"/>	<input type="text"/>
Large Outbound Data	<input type="text"/>	<input type="text"/>	<input type="text"/>
Long Duration	<input type="text"/>	<input type="text"/>	<input type="text"/>
Network Enumeration (Port)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Network Enumeration (Host)	<input type="text"/>		
Large Packet Rate	<input type="text"/>		
Inbound Connection Rate	<input type="text"/>	<input type="text"/>	<input type="text"/>
Outbound Connection Rate	<input type="text"/>	<input type="text"/>	<input type="text"/>

NitroGuard Product Line

- **NitroGuard 500 IPS**
 - *Ready for the enterprise*
 - *Redundant hardware*
- **NitroGuard 200 IPS**
 - *SME and departmental solution*
- **NitroGuard WG IPS**
 - *Work Group Solution*
 - *Protects internal assets*
- **NitroGuard M IPS**
 - *Built for SMB*
 - *Managed by a partner*



Hardware either supplied by NitroSecurity or purchased based on exact specifications

In the US, Nitroguard is delivered embedded within a hardware box.

In Europe, NitroGuard is mostly provided as a software suite in order to run on hardware based on NitroSecurity exact specifications.

The NitroGuard Advantage

- **User Customizable**
 - Custom Signatures / Alerts
 - Custom Reports
 - Secure Application Gateway

- **Signature updates**
 - Based upon the industry's most widely deployed Intrusion Detection System core – SNORT
 - Over 3,000 built in attack signatures
 - Multiple source vs. proprietary
 - Automated signature updates

- **World Class Service and Support**
 - 24X7 and managed service options available
 - Alpha response available



Intrusions: What should you do?

In an October 2003 release, Gartner advised clients to purchase a network-based IPS and states, “***A true network-based intrusion prevention system must:***”

- *Operate as an in-line network device at wire speeds. ✓*
- *Perform packet normalization, assembly and inspection. ✓*
- *Apply rules based on several methodologies to packet streams, including (at a minimum) protocol anomaly analysis, signature analysis and behavior analysis. ✓*
- *Drop malicious sessions - don't simply reset connections. ✓*

“Enterprises that have not yet made large investments in network IDSs should delay investment while investigating the advantages of Intrusion Prevention Solutions.”

Other Cressida Security Solutions: Ecora

- **Enterprise Auditor**

Ensure proper implementation and use of Security settings & policies

- Automatically generate configuration settings and change reports,
- For security audits and compliance.
- Covers all critical OS's, databases, network devices, and applications, including Cisco, Citrix, IBM, Microsoft and Oracle.

- **Patch Manager**

Make sure latest Operating System Security capabilities are effective

- Automate and accelerate patch management –
- Easy to install and use,
- Unsurpassed graphical reports.
- Agentless or agent-based – your choice.



- **Device Lock**

Stop improper use of mobile and volatile storage devices

- Prevent users with USB drives from stealing your data.
- Halt unauthorized Wi-Fi networks and manage user access to devices.

Other Cressida Security Solutions: Akonix

- **Full and Comprehensive of Management of Public and Enterprise IM**
 - Public IM - AOL, ICQ, IRC, MSN and Yahoo!
 - EIM – Lotus SameTime and Microsoft Live Communication Server (LCS)
- **IM Logging and Report for other selected Enterprise IM solutions**
 - Reuters Instant Messaging
 - Bloomberg Instant Message
 - Authenticates user/screen name
 - Integrates with Active Directory
 - Manages by single user, groups of users or everyone
 - Full Access Controls – Chinese Walls
 - File Transfer Controls
 - IM Feature Controls
 - Full or Selective Content Filtering
 - Anti-virus scanning (with 3rd party)
 - IM conversation logging and reporting
 - IM Content Archiving Integration (with 3rd party)
 - Compliance Reporter and protocol
 - Dynamic update for protocol changes
 - Auto install, no downtime
 - Offers full scalability



Other Cressida Security Solutions: ReQuest

- **Recovery**
 - Time Stamp Recovery
 - Detection of valid recovery points
 - Cross Queue Manager
 - Allows MQ data to be recovered in sync with DBMS data.
 - Recover deleted queues and purged data.
 - Forward Recovery
 - Individual Q's or group of Q's, possibly cross queue manager
 - Mass recovery in fail over situation.
 - Purged Queues
- **Reporting**
 - Granularity is MQ-call
 - Cross Queue Manager
 - By Q, By application, By Time-span
 - "Message Propagation"-report
 - MQPUT by appl A on RemoteQ in QMGR_A
 - Put on transmission Q for QMGR_intermediate
 - Put on transmission for QMGRB by QMGR_intermediate
 - Put on Q_Receiving in QMGRB by receiver.
 - MQGET from Q_Receiving
 - MQPUT of reply message (correlid!) by appl B on...
 - Filtering options
 - Raw data, in fixed documented format
 - To interface with other reporting tools

Other Cressida Security Solutions: RepliWeb

- **Recovery**
 - Fire and forget
Recovers from networks failures or system crashes down to block level
- **Data transfer**
 - Integrity
 - Compression
 - Bandwidth control
 - Absolute
 - Relative
 - Time frames
 - Differential Transfer
on large files only transfer the differences



Thank You

- Interesting free downloads:
 - NitroSecurity:
 - White papers on IPS (Intrusion Prevention System)
 - http://www.cressida.info/whitepapers_page.htm#NitroGuard
 - Akonix RogueAware software:
 - *free monitoring tool that detects and reports on IM and P2P File Sharing use within corporate network*
 - http://www.akonix.com/products/test_drive.asp
 - Ecora
 - Free software evaluation (Systems Configuration Audit & Patch Management)
 - http://www.cressida.info/products_ecora_overview.htm

Cressida, NitroSecurity Distributor for Europe,

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