Resilience of the Internet routing –

a network operator's view



How "risky" is the global routing system?

How often incidents happen?

- Routing Resilience Measurements Workshop <u>http://www.internetsociety.org/doc/report-routing-resiliency-measurements-</u> workshop
- Frequency very much depends on the threshold for false positives

What is the impact?

- Data are missing, sensitive or not collected at all
- Risk assessment is a guess at best

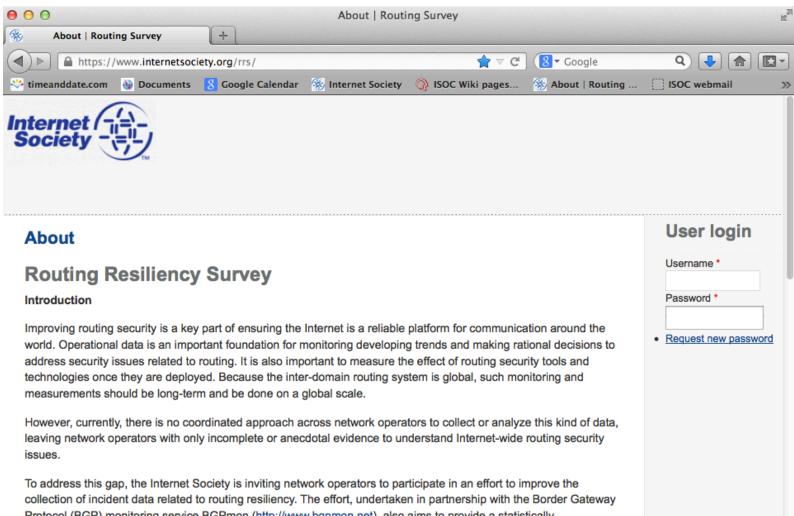
Is your network affected?

- Detect incidents
- Eliminate false positives
- Assess the impact

Are you adequately protected?



https://www.internetsociety.org/rrs/



Protocol (BGP) monitoring service BGPmon (<u>http://www.bgpmon.net</u>), also aims to provide a statistically representative picture of these incidents and their impacts, and to provide a basis for risk assessment and global trend analysis. In this context, one important dataset is operational statistics of incidents related to routing security, as registered by a network operator. This survey is aimed at collecting these operational data.



The Survey

Evidence based risk analysis

Filter by Type -All - Priority ✓ Critical ✓ Warning ✓ Notice □ Info □ Include previously classified □ Show only Active alerts Filter											Lege Critic Warm Notic Info	al ing		
ID	Alert Type	Your	Your Prefix	Detected Prefix	Origin AS	ASPath		0	Time (UTC)		Seen By #Probes	Duration	Status	Classify
794	More Specific Announcement by Customer	64500	208.67.220.0/24	208.67.220.0/25	666	1103 271 6	66		2013-09-19 15:47:35	(666	0	active	*
734	More Specific Announcemen by Customer	64500	128.189.0.0/16	128.189.128.0/18		28247 2623 12989 27 1 393249	781 28329 27 27		2013-06-10 14:15:40 2013-0-1		if∖	22:44:20	active	•
735	More Specific Announcement by Customer	64500	8. 99 0. 7	128.1.0 9P V1	303219	84695 1.57 393249	70 / 576 2		2013-0-1 14:15:40		i i y	22:44:20	active	•
736	More Specific Announcement by Customer	64500	207.23.0.0/16	207.23.160.0/19	11105	558 22822	271 11105		2013-04-18 18:58:04	ł	8	22:01:56	active	•
737	More Specific Announcement by Customer	64500	207.23.0.0/16	207.23.192.0/19	11105	40387 1153 11105	37 6509 271		2013-04-18 18:58:04		18	22:01:56	active	•
738	More Specific Announcement by Other AS	64500	206.12.24.0/22	206.12.26.0/24	22950	553 680 20 26806 229			2013-02-11 02:40:29		11	14:19:31	active	•
730	More Specific	271	206 12 24 0/22	206 12 27 0/24	22050	3267 2603	6500 26806		2013-02-11		11	14-10-91	active	



Data collection

Network Information

- Once, during the initial sign up.
- Network type, connectivity, and practices used in mitigating routing security incidents. It should take approximately 10-15 minutes to fill out the registration form.

Data related to routing security incidents via an automated monitoring effort

- On first login a "historical" overview will be presented, listing detected suspicious events over last 6-12 months
- After that once a week newly detected suspicious events are collected and displayed in the portal
- Participants are asked to validate and classify these events
 - Impact: severe, moderate, insignificant, not an incident
 - Detection: monitoring system, customer call, this alert



Confidentiality concerns

We understand the sensitivity of some of the data involved in this effort. Therefore, the Internet Society is committed to ensuring participant-specific information remains confidential.

All data collected is stored on Internet Society servers. Any information or analyses shared beyond a specific network will be fully anonymized.



Interested in Participating?

If you decide to participate, please send a request for the creation of your account to rrs-admin@isoc.org.

In the request please indicate

- your AS number and
- <u>e-mail address</u> for notifications.

You may also include <u>AS numbers of your customers</u> for which you would like to monitor and classify related security incidents.

