# Service Criticality Form

RIPE NCC Access (SSO)

## Introduction

This form is used to gather input from the community on the service criticality. The framework is detailed in https://labs.ripe.net/author/razvano/service-criticality-framework/. The service criticality has three components:

***Confidentiality***:
*What is the highest possible impact of a data confidentiality-related incident (data leak)?*

***Integrity***:
*What is the highest possible impact of a data integrity-related incident (hacking)?*

***Availability***:
*What is the highest possible impact of a service availability-related incident (outage)? All our services are designed with at least 99% availability, so please consider outages of up to 22 hours.*

## Service Overview

Table 1: Service Overview

| | |
|---|---|
| Service purpose | To manage access of external users to all publicly accessible RIPE NCC applications. |
| Service owner(s) | Theodoros Polychniatis |
| Stakeholders | Internally: Legal, Information Security and Compliance, Registration Services, Web Services, Learning & Development, Research & Development, Finance, Communications, Community & Engagement, Software Engineering<br>Externally: members and community users (mainly RIPE NCC Services WG) |
| Types of data that the service stores or processes | User profile information: first/last name, email, user image, password (hashed and salted), multiple-factor authentication meta-information, association with LIRs in the LIR Portal, audit log of changes in the above information, profile photo |
| Critical parts of the service (in terms of availability) | At the moment, no service function dependent on SSO is considered critical (such as queries in the RIPE Database, the RPKI repository, or K-root). |
| Non-critical parts of the service | Log in, create/modify user information, set up two-factor authentication. Every RIPE NCC service that requires login is dependent on SSO (RIPE Database, LIR Portal, meeting software, RIPE Networking App, RIPEstat, RIPE Atlas, RIPE NCC Academy, Certified Professionals, RIPE Labs, www.ripe.net, ARC, Reform), but not the critical parts of these services. |

| | |
|---|---|
| | Admins can invite or unassign users to an LIR account in the LIR Portal. This data is stored in the SSO app. |

# Impact Areas

## Global Routing

| | Low | Medium | High | Very High |
|---|---|---|---|---|
| **Global Routing** | No / negligible impact | Limited reachability issues | Widespread reachability issues | Widespread and persistent reachability issues |

| Incident Impact on Global Routing | Incident Severity |
|---|---|
| ***Confidentiality: (Impact level of incidents such as data leaks)*** | |
| If someone gets unauthorised access to the login information of other users, they could access any service integrated with SSO (LIR Portal tickets, RIPE Database resources, etc.). They could also see which other LIRs/members an SSO user is part of. This would not have a significant impact on global routing by itself.<br><br>That is why passwords are stored with strong encryption (hashed, with random salt). | **Low** |
| ***Integrity: (Impact level of incidents such as hack attempts)*** | |
| If someone has unauthorised access to the LIR Portal and RIPE Database, they could change ROAs, route and contact information objects in the RIPE Database, which would have an impact on global routing. Network operators would need to stop validating BGP routes until this problem is resolved. Contact information also would be wrong. That could cause many ASes to become unavailable. | **High** |
| ***Availability: (Impact level of service outage incidents, up to 22 hours)*** | |
| Such an outage would cause an inability to change ROAs and RIPE Database objects, but because that duration is not long, it would probably cause problems only to a few ASes. | **Medium** |

## IP addresses and AS Numbers

| | Low | Medium | High | Very High |
|---|---|---|---|---|
| **IP addresses and AS Numbers** | No / negligible impact | Local disruptions (registration information not being available for some entities) | Regional disruptions (registration information not being available for the RIPE NCC region) | Global disruptions (lack of registration information for all AS Numbers and IP addresses) |

| Incident Impact on IP Addresses and AS Numbers | Incident Severity |
|---|---|
| ***Confidentiality: (Impact level of incidents such as data leaks)*** | |
| Through unauthorised access to login information for other users, ticket information (without attachments), invoice information, and in some cases, resource information for a member could leak via the LIR Portal, or information about one's Atlas probes and measurements. It is unlikely that this would have a significant impact in this area. | **Low** |
| ***Integrity: (Impact level of incidents such as hack attempts)*** | |
| Through unauthorised access to login information for other users, someone could maliciously change RIPE Database objects such as inet(6)num (not the ones locked by the RIPE NCC) or contact objects and create problems in getting information about a network.<br><br>Also, if someone maliciously claims votes in the LIR Portal from other members who would not normally vote, this could have an indirect impact on policies, including numbering. | **High** |
| ***Availability: (Impact level of service outage incidents)*** | |
| Such an outage would cause an inability to change RIPE Database objects, ROAs, or to see one's measurements in RIPE Atlas. Because that duration is not long, it would probably cause problems only to a few ASes. | **Medium** |

## Global DNS

| | Low | Medium | High | Very High |
|---|---|---|---|---|
| **Global DNS** | No / negligible impact | Local DNS issues | Widespread DNS issues | Widespread and persistent DNS issues |

| Incident Impact on Global DNS | Incident Severity |
|---|---|
| ***Confidentiality: (Impact level of incidents such as data leaks)*** | |
| No / negligible impact | **Low** |
| ***Integrity: (Impact level of incidents such as hack attempts)*** | |
| Through unauthorised access to login information for other users, someone could maliciously change reverse delegation (domain) objects in the RIPE Database, whichcould have an impact on global DNS. | **Low** |
| ***Availability: (Impact level of service outage incidents)*** | |
| Inability to change domain objects for a day in the RIPE Database would not cause more than local disruptions. | **Medium** |