



**CKN23-ARIN
(No Contact Known)**

CKN23-ARIN Overview

- ARIN POC handle - “No Contact Known”
 - Created to preserve internal business rules during 2011 database conversion
 - Thousand of instances in Whois, mostly on legacy records
 - Now causing some issues in need of resolution

CKN23-ARIN Background

- ARIN database conversion in 2002 (JPNv2 to JPNv3)
 - JPNv2: One POC per resource record
 - JPNv3: Organization record (Org ID) created with several new POC types (Admin, Tech, Abuse, NOC)
 - Admin and Tech POC could manage all resources held by the organization
- At the time, hijackings were occurring and commonly done via unauthorized reverse DNS changes
 - ~50% of records in ARIN's database were legacy and many hadn't been updated for years, making them easy targets
 - As a result, staff implemented new verification and vetting to combat hijackings
- When an Org ID didn't have a clear POC that had been recently updated, no POCs were added to the Org record
 - Original POC remained on resource record only
 - This forced verification of authorization before reverse DNS changes could be made to protect records from hijacking

Whois Example Output

(Legacy – Before 2002 Database/Template Conversion)

XYZ Technologies, Inc. (NETBLK-XYZ123)
1234 Evergreen Terrace, Suite 601
Springfield, Virginia 22151

Netname: XYZ123
Netblock: 192.0.2.0 – 192.0.2.255
Coordinator:

Doe, Jane
(XY12-ARIN) jdoe@XYZTECH.EXAMPLE.NET
(555) 555-5555

Domain system inverse mapping provided by:

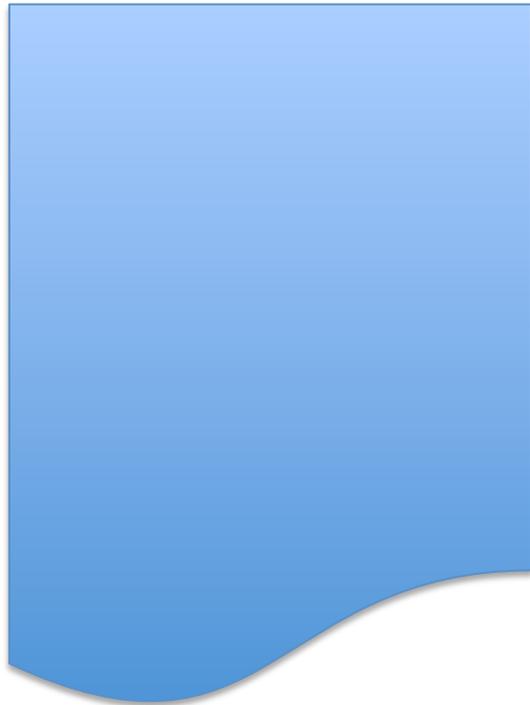
AUTH03.NS.XY.NET	198.6.1.83
AUTH00.NS.XY.NET	198.6.1.65

Record last updated on 21-Apr-1998.
Record created on 22-Jan-1994.

Organization information
not broken out from
resource record
information

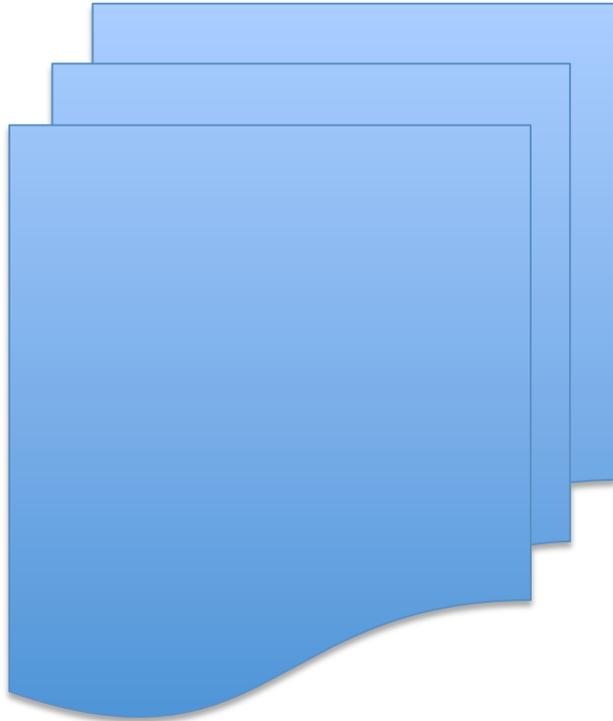
Point of Contact
information not broken
out from resource record
information

Summary of How We Started Legacy



Before 2002, resource records contained the resource allocation information, the organization information, and the contact information in a single record

Summary of How We Started Legacy



Beginning in 2002, this information was split out into multiple records – what we now know as the NET record, the Org Identifier (Org ID), and Point-of-Contact (POC) records

Whois Example Output

Phase 1: Post 2002 Database/Template Conversion

```
OrgName: XYZ Technologies, Inc.  
OrgID: XYZT  
Address: 1234 Evergreen Terrace, Suite 601  
City: Springfield  
StateProv: VA  
PostalCode: 22151  
  
NetRange: 192.0.2.0 - 192.0.2.255  
CIDR: 192.0.2.0/24  
NetName: XYZ123  
NetHandle: NET-192-0-2-0-1  
Parent: NET-192-0-0-0-0  
NetType: Direct Allocation  
NameServer: AUTH03.NS.XY.NET  
NameServer: AUTH00.NS.XY.NET  
Comment:  
Comment: Contact abuse@XYZTECH.EXAMPLE.NET for policy abuse issues.  
  
RegDate: 1994-01-22  
Updated: 1998-04-21
```

```
TechHandle: XY12-ARIN  
TechName: Doe, Jane  
TechPhone: 555-555-5555  
TechEmail: jdoe@XYZTECH.EXAMPLE.NET
```

Organization Record
(Org ID) Information
Derived from Legacy
Resource Record
Information

Previous contact info
within resource record
converted to Resource
Tech POC

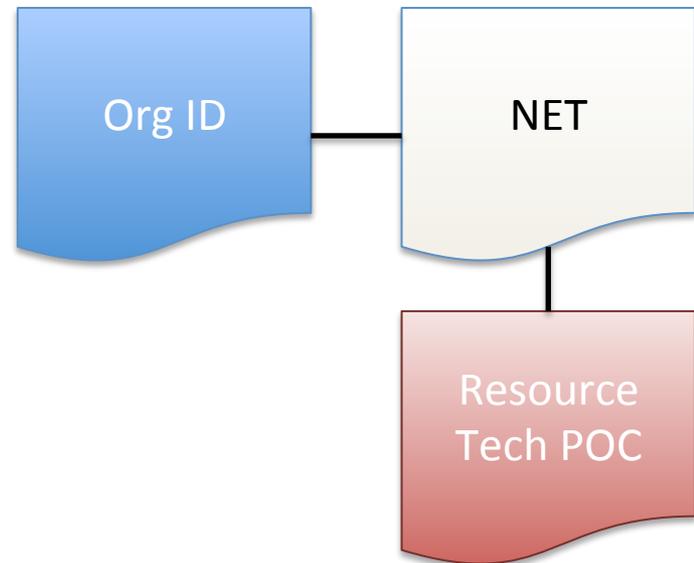
Overview of How We Got Here

Phase 1: Post 2002 Database/Template Conversion

Before



After



CKN23-ARIN

Creation & Use

- Policy 2010-14 implemented 9/27/2011
 - Required Abuse POCs on all Org records
- When 2010-14 was implemented, new business rule added to enhance data quality
 - Admin and Tech POC now required on all Org records
 - CKN23-ARIN created to become Admin and Tech POC on Orgs that lacked POCs (mostly legacy)

2011 Database Conversion

- In 2011 database conversion, reverse DNS delegation switched from per-net to per-zone
 - This created significant hijacking potential by allowing resource POCs to change their reverse delegation without being verified as legitimate
- To restore business rules, comply with policy 2010-14, and prevent hijackings, resource POCs of legacy networks that had never been updated or validated by ARIN were moved to the organization record as abuse POCs
 - This reinstated ARIN's verification and vetting requirements before reverse DNS changes could be made

Whois Example Output

Phase 2: Post 2011 Database Conversion

NetRange: 192.0.2.0 - 192.0.2.255
CIDR: 192.0.2.0/24
NetName: XYZ123
NetHandle: NET-192-0-2-0-1
Parent: NET192 (NET-192-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: XYZ Technologies, Inc. (XYZT)
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/net/NET-192-0-2-0-1>

OrgName: XYZ Technologies, Inc.
OrgId: XYZ123
Address: 1234 Evergreen Terrace, Suite 601
City: Springfield
StateProv: VA
PostalCode: 22151
Country: US
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/org/XYZ123>

OrgTechHandle: CKN23-ARIN
OrgTechName: No, Contact Known
OrgTechPhone: +1-800-555-1234
OrgTechEmail: nobody@example.com
OrgTechRef: <https://whois.arin.net/rest/poc/CKN23-ARIN>

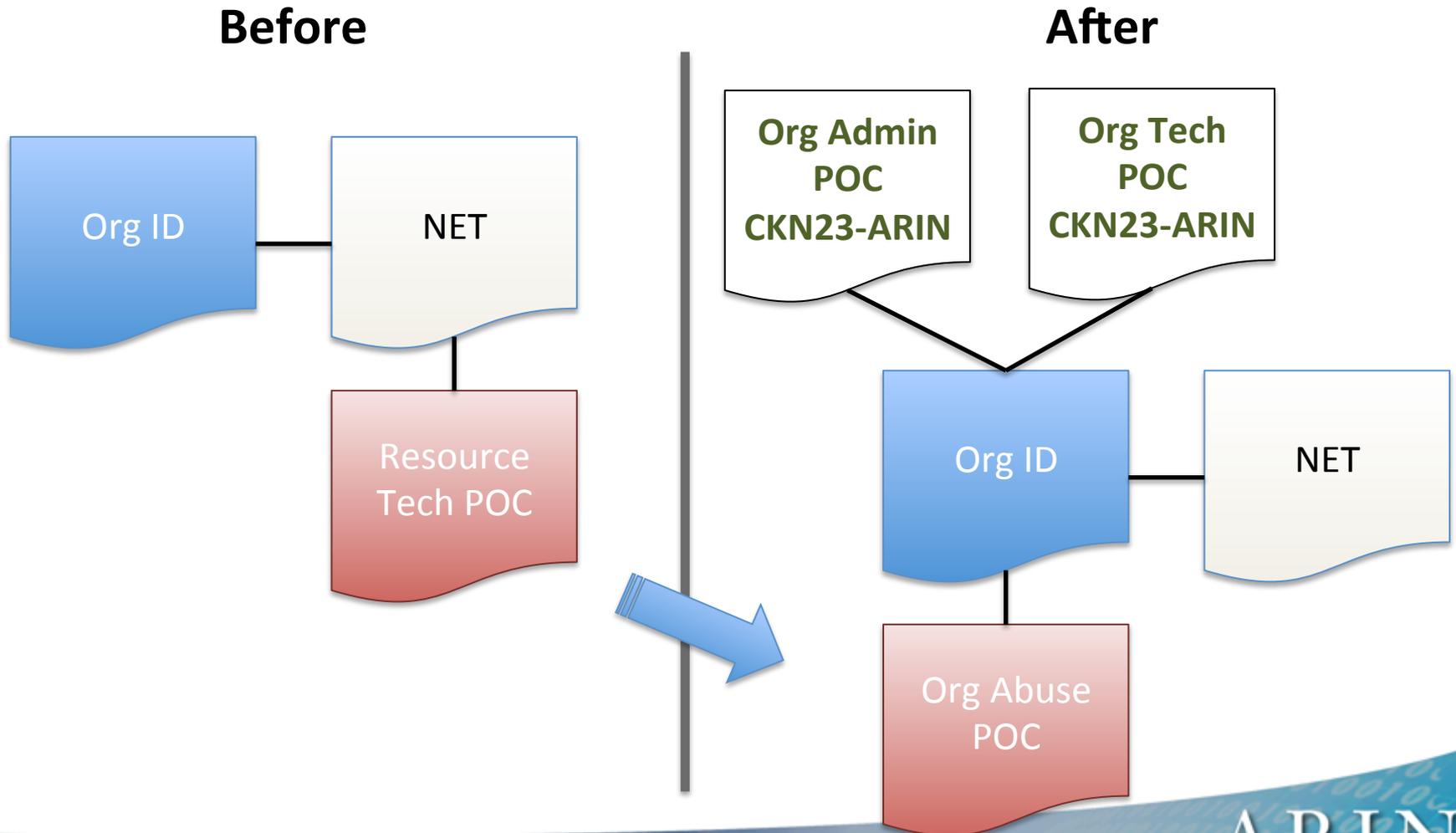
OrgAbuseHandle: XY12-ARIN
OrgAbuseName: XYZ Tech, AlphaNet - Technical Support
OrgAbusePhone: 555-555-5555
OrgAbuseEmail: help@XYZTECH.EXAMPLE.NET
OrgAbuseRef: <https://whois.arin.net/rest/poc/XY12-ARIN>

CKN23-ARIN becomes both the Admin and Tech POC for any Organization record that had no existing POCs associated with it

Former resource Tech POC (taken from original resource record) becomes organization Abuse POC

Overview of Where We Are Now

Phase 2: Post 2011 Database Conversion



CKN23-ARIN

Current Issues

- Easy for hijackers to target records with no contact known
- ARIN's database appears to be out of date and inaccurate
- POCs that were moved from resource tech to org abuse are not happy
 - If POC is verified but org data is no longer accurate, they have option to correct record via transfer or be restored as resource POC
 - However, even if restored as the POC on the resource record, Org record still shows CKN23-ARIN as the Admin and Tech POC

Potential Solutions

- Option 1 – Status quo
 - Maintains hijacking protection but makes some users unhappy
- Option 2 – Restore resource POCs, retain CKN23-ARIN as Org POC
 - Opens up hijacking risk by giving original POC control of the network without a verification process

Potential Solutions

- Option 3
 - Restore resource POCS
 - Replace CKN23-ARIN with a handle that better explains the record's status (e.g. "Legacy Record – See Resource POC)
 - Lock all resources associated with these legacy records who have had their resource POC restored
 - Would require any changes made by resource POC to be reviewed by ARIN first
 - CKN23-ARIN would be used only where there truly is no known POC
 - POC asked to be removed because they no longer work for the org but do not know who should replace them
 - No POC has ever existed in ARIN's records
 - Retains hijacking protection while preserving original resource POCs

Potential Solutions to CKN23 Issues

Option #1- Retain Current Structure

```
NetRange:      192.0.2.0 - 192.0.2.255
CIDR:          192.0.2.0/24
NetName:       XYZ123
NetHandle:     NET-192-0-2-0-1
Parent:        NET192 (NET-192-0-0-0-0)
NetType:       Direct Allocation
OriginAS:
Organization:  XYZ Technologies, Inc. (XYZT)
RegDate:       1994-01-22
Updated:       1998-04-21
Ref:           https://whois.arin.net/rest/net/NET-192-0-2-0-1

OrgName:       XYZ Technologies, Inc.
OrgId:         XYZ123
Address:       1234 Evergreen Terrace, Suite 601
City:          Springfield
StateProv:     VA
PostalCode:    22151
Country:       US
RegDate:       1994-01-22
Updated:       1998-04-21
Ref:           https://whois.arin.net/rest/org/XYZ123

OrgTechHandle: CKN23-ARIN
OrgTechName:   No, Contact Known
OrgTechPhone:  +1-800-555-1234
OrgTechEmail:  nobody@example.com
OrgTechRef:    https://whois.arin.net/rest/poc/CKN23-ARIN

OrgAbuseHandle: XY12-ARIN
OrgAbuseName:   Doe, Jane
OrgAbusePhone:  555-555-5555
OrgAbuseEmail:  jdoe@XYZTECH.EXAMPLE.NET
OrgAbuseRef:    https://whois.arin.net/rest/poc/XY12-ARIN
```

- Pros
 - Has worked to prevent hijackings
 - Continues to provide verifiable audit trail
- Cons
 - May imply resource is abandoned
 - Can further impression that Whois data is out-of-date/incorrect
 - Confusing and non-intuitive to customers, especially as ARIN changed records without prior approval

Potential Solutions to CKN23 Issues

Option #2- Legacy Org Abuse POCs Revert to Resource Tech POCs

NetRange: 192.0.2.0 - 192.0.2.255
CIDR: 192.0.2.0/24
NetName: XYZ123
NetHandle: NET-192-0-2-0-1
Parent: NET192 (NET-192-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: XYZ Technologies, Inc. (XYZT)
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/net/NET-192-0-2-0-1>

OrgName: XYZ Technologies, Inc.
OrgId: XYZ123
Address: 1234 Evergreen Terrace, Suite 601
City: Springfield
StateProv: VA
PostalCode: 22151
Country: US
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/org/XYZ123>

OrgTechHandle: CKN23-ARIN
OrgTechName: No, Contact Known
OrgTechPhone: +1-800-555-1234
OrgTechEmail: nobody@example.com
OrgTechRef: <https://whois.arin.net/rest/poc/CKN23-ARIN>

RTechHandle: XY12-ARIN
RTechName: Doe, Jane
RTechPhone: 555-555-5555
RTechEmail: jdoe@XYZTECH.EXAMPLE.NET
RTechRef: <https://whois.arin.net/rest/poc/XY12-ARIN>

- Pros
 - Would address complaints made by some unhappy customers who had been affected
 - Org record still protected from changes, no resource requests/transfers without additional vetting
- Cons
 - Likely many contacts would be out-of-date or inaccurate
 - Because of authority on resource records, could become vector for hijacking attempts/undesired actions
 - Would not address persistence of CKN23-ARIN records as Org Tech and Org Admin POCs

Potential Solutions to CKN23 Issues

Option #3 - Same as Option #2, with new placeholder handle and lock on resources

NetRange: 192.0.2.0 - 192.0.2.255
CIDR: 192.0.2.0/24
NetName: XYZ123
NetHandle: NET-192-0-2-0-1
Parent: NET192 (NET-192-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: XYZ Technologies, Inc. (XYZT)
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/net/NET-192-0-2-0-1>

OrgName: XYZ Technologies, Inc.
OrgId: XYZ123
Address: 1234 Evergreen Terrace, Suite 601
City: Springfield
StateProv: VA
PostalCode: 22151
Country: US
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/org/XYZ123>

OrgTechHandle: LR-15
OrgTechName: Legacy Registration - No Organization Contact Available
OrgTechPhone: +1-800-555-1234
OrgTechEmail: nobody@example.com
OrgTechRef: <https://whois.arin.net/rest/poc/LR-15>

RTechHandle: XY12-ARIN
RTechName: Doe, Jane
RTechPhone: 555-555-5555
RTechEmail: jdoe@XYZTECH.EXAMPLE.NET
RTechRef: <https://whois.arin.net/rest/poc/XY12-ARIN>

New placeholder handle (“Legacy Registration”) for Org Admin and Org Tech

Former Org Abuse POC reverted to Resource Tech POC (retained as Org Abuse POC)

Potential Solutions to CKN23 Issues

Option #3 - Same as Option #2, with new placeholder handle and lock on resources

NetRange: 192.0.2.0 - 192.0.2.255
CIDR: 192.0.2.0/24
NetName: XYZ123
NetHandle: NET-192-0-2-0-1
Parent: NET192 (NET-192-0-0-0-0)
NetType: Direct Allocation
OriginAS:
Organization: XYZ Technologies, Inc. (XYZT)
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/net/NET-192-0-2-0-1>

OrgName: XYZ Technologies, Inc.
OrgId: XYZ123
Address: 1234 Evergreen Terrace, Suite 601
City: Springfield
StateProv: VA
PostalCode: 22151
Country: US
RegDate: 1994-01-22
Updated: 1998-04-21
Ref: <https://whois.arin.net/rest/org/XYZ123>

OrgTechHandle: LR-15
OrgTechName: Legacy Registration - No Organization Contact Available
OrgTechPhone: +1-800-555-1234
OrgTechEmail: nobody@example.com
OrgTechRef: <https://whois.arin.net/rest/poc/LR-15>

RTechHandle: XY12-ARIN
RTechName: Doe, Jane
RTechPhone: 555-555-5555
RTechEmail: jdoe@XYZTECH.EXAMPLE.NET
RTechRef: <https://whois.arin.net/rest/poc/XY12-ARIN>

- Pros
 - Same benefits as Option #2, but would also help clarify meaning & status of the former CKN23 handle
 - Lock on legacy resource records allows for validation while protecting resources from hijacking
- Cons
 - Likely many contacts would be out-of-date or inaccurate
 - Resource Tech would retain some limited ability to make changes to resource record

Path Forward

- Project will be turned over to the Services WG for review and further consultation with the community
 - Explore staff proposed options
 - Work together with the community to propose other potential solutions

QUESTIONS?