

## HROUG

Otkrivanje internih prijevара  
analizom obrazaca ponašanja  
korisnika IT sustava

noitulo2

Rovinj, 18.-22.10.2011.

Nevenko Bartolinčić



- Postavljanje scene
- Zaplet
- Vrhunac
- Rasplet
- Kava

# Scena 1: Očigledno

## SLUŽBENICA ZAGREBAČKE BANKE ANKICA LEPEJ OTKRILA RAČUN ANKICE TUĐMAN



20. listopada - Ankica Lepej, dugogodišnja službenica Zagrebačke banke, predočila je javnosti [stanje bankovnog računa](#) Ankice Tuđman. Ona se jučer sama prijavila Upravi banke.

Vesna Alaburić, odvjetnica Ankice Lepej, istaknula je kako su motivi gospode Lepej da otkrije tu informaciju i da sada otkrije svoj identitet kao izvor informacije nevjerovatno časni. Ona je na kojekakve daljnje istrage i motrenja ljudi, rekla je Alaburić. Ona je vidjela račune gospode Tuđman, koji su za nju, kako je rekla, bili bezlični. Predsjednikova bi obitelj, barem mi se tako čini, trebala svim informacijama biti primjer kakve treba biti. Njezina odvjetnica potvrdila je da je gospođa Lepej otkrila račun Ankice Tuđman, koji je imao preko milijun kuna koju je Zagrebačka banka ponudila za otkrivanje izvora informacija.

14. SIJEČNJA 2011. 14:24h

### Obiteljska bankarica "očistila" račune šest klijenata za 355.000 kuna

Zagrebačka banka pokrenula je, prije otkrivanja identiteta i bankarske tajne te neovlaštenog i protuzakonitog priopćavanja

20. listopada - MUP je objavio kako je otkriven još jedan slučaj. Protiv njih će, stoji u priopćenju Ureda za odnose s javnošću, biti podnošene kaznene prijave najavljenih počinilaca. Protiv njih će, stoji u priopćenju Ureda za odnose s javnošću, biti podnošene kaznene prijave najavljenih počinilaca.



Tekst

Like Send Be the first of your friends to like this.

Najmanje 355 tisuća kuna spremila je u džep 49-godišnja bankarska službenica iz Matulja, zaposlena kao obiteljski bankar u jednoj riječkoj banci. Kriminalističkim istraživanjem Odjela gospodarskog kriminaliteta PU Primorsko-goranske ustanovljeno je da je bankarica od prosinca 2008. do kolovoza 2010. godine oštetila šest klijenata.

Bez njihova znanja zatvorila je i otvorila više računa devizne štednje i krivotvorivši dokumentaciju i ugovore o računima. Novac koji je zadržala za sebe šestorici oštećenih klijenata vratila je poslovnica banke i ostala oštećena za iznos kojim si je mjesečna primanja podebljavala njihova bivša službenica.

Bankarska službenica iz Matulja zbog tri kaznena djela zlouporabe položaja i ovlasti i tri kaznena djela krivotvorenja službene isprave Županijskom državnom odvjetništvu prijavljena je redovnim putem.

### banke štedišama uzela 950.000 kuna

ru šalterska službenica (44) iz Bola oštetila je za nešto manje od 950.000 kuna. Ona se prijavila zbog neovlaštene uporabe, prijevare i krivotvorenja u području o-dalmatinske Policijske uprave.

riminaliteta uhitili su 44-godišnja govorna osoba u banci od 2009. godine. Ona je prekorila ovlasti i stvorila potpise na potvrđama o računima. Novac koji je podizala, a za sebe te je tako više štediša

koji će ovo preporučiti.



### Pronevjera Službenica banke ukrala 120.000 kuna

05.07.2010 Zadar Dovršeno je kriminalističko istraživanje sumnja da je 36-godišnja šalterska službenica banke u Zadru u razdoblju od 10. godine protupravno prisvojila novac šest klijenata, izvijestila je PU zadarska

Sumnjiči se da je neovlašteno vršila isplate novca te ga zadržavala za sebe, dok je u rubrici ovjera nadogodavca lažno upisivala imena i prezimena klijenata, čime je banku oštetila za iznos od preko 120.000 kuna.

Protiv 36-godišnjakinje je podnesena kaznena prijava zbog pronevjere.

ALATI

- Komentiraj članak
- Podijeli s drugima
- Pošalji članak
- Rss
- Ispiši članak
- Smanji slova
- Broj glasova: 0 | Prosjek: 0%

KLJUČNE RIJEČI

- Gospodarski kriminalitet u RH
- ZABA (Zagrebačka banka d.d.)

Moje pretplate >>

# Scena 2: Malo manje očigledno

Index je jedini objavio njegovu policu osiguranja iz kojeg je vidljivo da je stajao više od četiri milijuna kuna.

MB 0000003276147

AUTOMOBILSKOG KASKA Br. 004620276406

**Ugovaratelj:** HRVATSKA DEMOKRATSKA ZAJEDNICA  
(03469271-000)  
TRG ŽRTAVA FAŠIZMA 4, 10000 ZAGREB

**Osiguranik:** HRVATSKA DEMOKRATSKA ZAJEDNICA  
(03469271-000)  
TRG ŽRTAVA FAŠIZMA 4, 10000 ZAGREB

HRVATSKA DEMOKRATSKA ZAJEDNICA  
TRG ŽRTAVA FAŠIZMA 4  
10000 ZAGREB

**Trajanje:** Početak: 16.01.2009. u 12:00. Istek: 16.01.2010. u 12:00.  
JEDNOGODIŠNJE osiguranje dospijeva na obnovu svake godine na dan 16.01.

Predmet osiguranja: OSOBNO VOZILO BMW 760 LI Reg.ozn. ZG9636AP  
Broj šasijske WBAHP810X0DC73256, god. proizvodnje 2008, 327 kW  
Osnovica za obračun premije i gornja granica obveze prema čl. 20. Uvjjeta AK: 4.187.505,00 kn Bez franšize



**BMW 760Li Security**  
REGISTRACIJA: ZG 9636 AP  
PROIZVEDEN: TRAVANJ 2008.  
ŠASIJA: WBAHP810X0DC73256

REGISTRIRAN: 16. SIJEČNJA 2009.  
ZADNJA REGISTRACIJA: -  
POLICA OSIGURANJA: 016231XXXXXX  
CROATIA OSIGURANJE

<b>Ukupno:</b>			<b>160.318,10</b>
Plaćanje u gotovini	160.318,10	- 5,000 %	8.015,91
Porez na premiju kasko osiguranja 10% (osnovica 152.302,20 kn)			15.230,22

**Ukupno za naplatu: 167.532,41**

Napomena: OSNOVICA ZA OBRAČUN PREMIJE SA PDV-OM  
DODATNA OPREMA U PRILOGU





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## Poor IT Security Blamed for Bank Fraud

Kerviel had previously worked in the bank's IT department, and so had in-depth knowledge of its systems and procedures.

Staff mostly followed those procedures, the investigating committee found, but the procedures were not in themselves sufficient to identify the fraud before Jan. 18, partly because of the effort Kerviel made to avoid detection, and partly because staff did not systematically conduct in-depth investigations when warnings flags were raised.

Among the tricks Kerviel used to hide his activities, the bank's General Inspection department highlighted the use of fake e-mail messages to justify missing trades, and the **borrowing of colleagues log-in credentials to conduct trades in their name.**

Investigators identified at least seven occasions on which Kerviel faked messages between April 2007 and Jan. 18, four of them referencing trades that never existed. The deception was eventually uncovered when they could find no trace of Kerviel receiving the purported messages in the bank's e-mail archival system, Zantaz.

## Kako se to moglo primjetiti?

Detekcijom “posuđivanja” koleginog korisničkog računa

- **Isti User-ID istovremeno prijavljen s dvije različite IP adrese**
- **Nekoliko User-ID prijavljeno jedan za drugim s iste IP adrese**
- **Korisnik se prijavio u sustav, a nije se na ulazu u zgradu prijavio svojom identifikacijskom karticom da je ušao u zgradu**
- **Netipične aktivnosti poslije kraja radnog vremena**

## Preuzimaju tuđi račun

- Krađu korisnički identitet manipulirajući podatke o računu
- Otvaraju račune za posrednike prenos novca ili za skrivanje traga prenosa novca
- Otvaraju račune za nepostojeće ili neodgovarajuće korisnike kako bi ostvarili kvotu ili proviziju

## Krađu novac

- Krađu novac od korisnika preko:
  - gotovine
  - čekova
  - kartica
  - transferom između računa
  - nalogima za plaćanje
- Krađu novac s internih računa preko:
  - gotovina
  - transferom između računa
  - nalogima za plaćanje

## Ostali načini

- Osobni troškovi na teret korporacijskih kreditnih karica
- Obavljanje transakcija za sebe, obitelj, prijatelje
- Krađa korisničkih podata za prodaju ili zloupotrebu
- Obavljanje neovlaštenih potraživanja, popusta, povrata
- Iskorištavanje starijih i nemoćnih osoba
- Udruživanje više djelatnika
- Kršenje pravila / namjerne greške
- Pokušavanje izbjegavanje detekcije



- 1 Ako su novci otišli možda je već prekasno
- 2 Vaši logovi ne sadrže cijelu priču
- 3 Koliko vaših pronevjera počinje s kršenjem kontrola?
- 4 Izbjegnuti gubitak vremena
- 5 Efikasno dobivanje konsolidiranih podataka

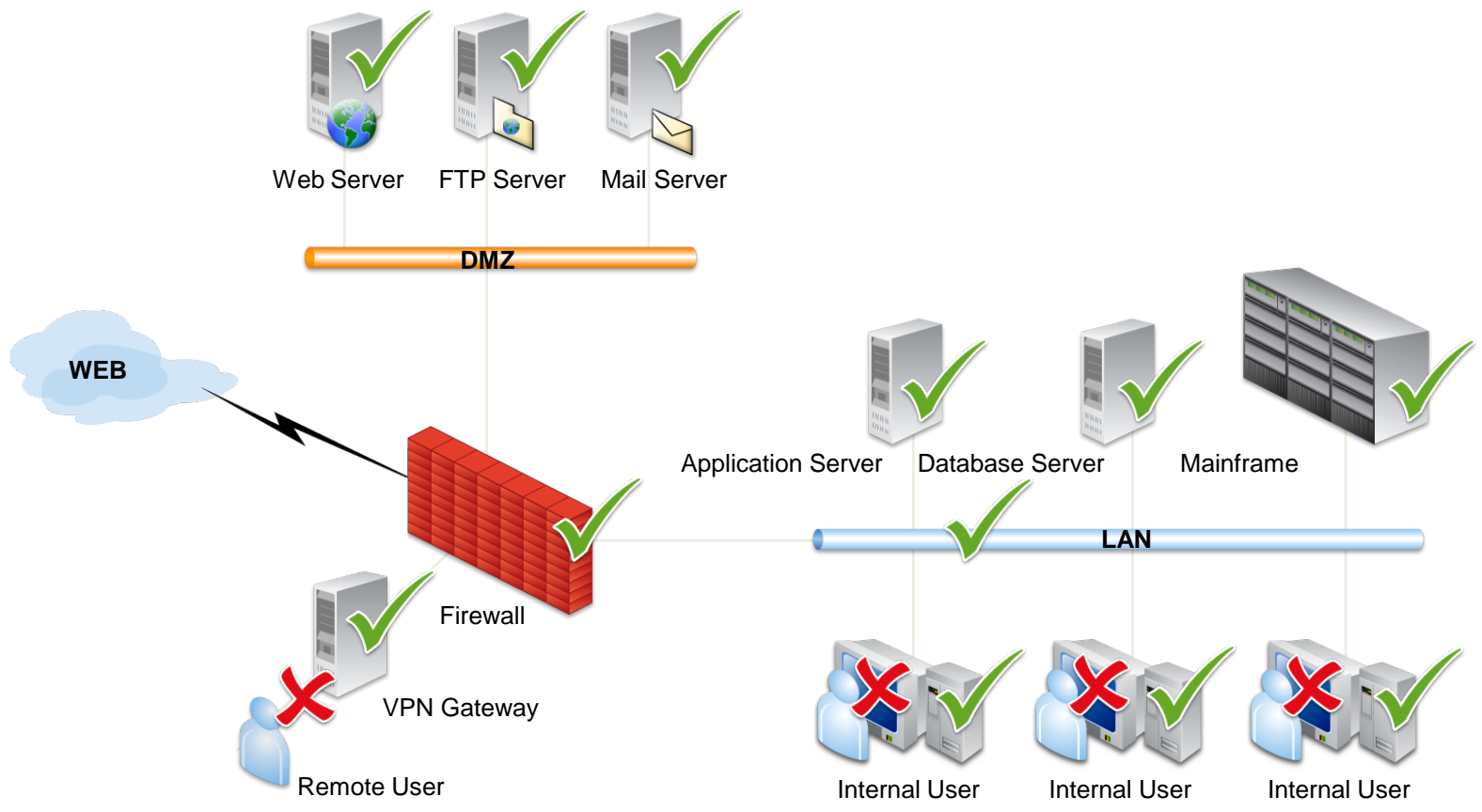
# 5

STVARI ZA RAZMISLITI



# Postojeća sigurnosna rješenja

**Svaki element je zaštićen...**  
**...osim od pristupa ovlaštenih osoba**



- osnovan 2005. u Izraelu
- preko 100 korisnika širom svijeta
- 3 od 10 vodećih banaka u SAD koristi Intellinx
- Gartner report 2010 o Enterprise Fraud Managementu:
  - Intellinx pozicioniran kao #1 za Internal Fraud detection.
  - Intellinx pozicioniran kao #1 za Deployment and Support Simplicity

# Korisnici Intellinx

## Banke i finansijske ustanove

Logos of banks and financial institutions:

- GE Money
- usbank
- UnionBank
- Comerica
- Raiffeisen BANK
- UniCredit Bank
- EQUIFAX
- TransUnion.
- TCF
- FirstBank
- 中国农业银行 AGRICULTURAL BANK OF CHINA
- bankinter.
- NEDBANK
- leumi
- Inter-Europa Bank Rt.
- Banca Stato
- BANCO J. SAFRA
- ISRAEL DISCOUNT BANK
- K&H

## Osiguravajuća društva

Logos of insurance companies:

- UNIQA
- AVIVA
- HAREL
- Groupama

## Državna uprava

Logos of government agencies:

- POLICE DEPARTMENT
- Delaware Criminal Justice Information System
- Federal Bureau of Prisons
- South African Department of Home Affairs
- National Health Insurance Fund
- Ekurhuleni
- Police Credit
- חברת החשמל לישראל Israel Electric Corp.
- המוסד לביטוח לאומי National Insurance Institute of Israel

## Zdravstvo i Maloprodaja

Logos of healthcare and retail organizations:

- HIGHMARK
- Taipei Veterans General Hospital
- MEUHEDET
- שופרסל

## Data Capture & Collection

- Network sniffing: transactions, screens, intra-application messages, database access
- Log files and databases
- Reference Data

## Forensic Visual Audit Trail

- Replay user activity screen by screen
- “Google like” search on captured data, e.g. Who accessed a specific customer account in a specific timeframe?
- Captured data is encrypted and digitally signed - potentially admissible in court when needed

## Fraud Analytics

- Dynamic Profiling and scoring of various entities
- Customizable business rules
- Real-time alerts
- New rules may be applied after-the-fact

## Investigation Workbench and Case Management

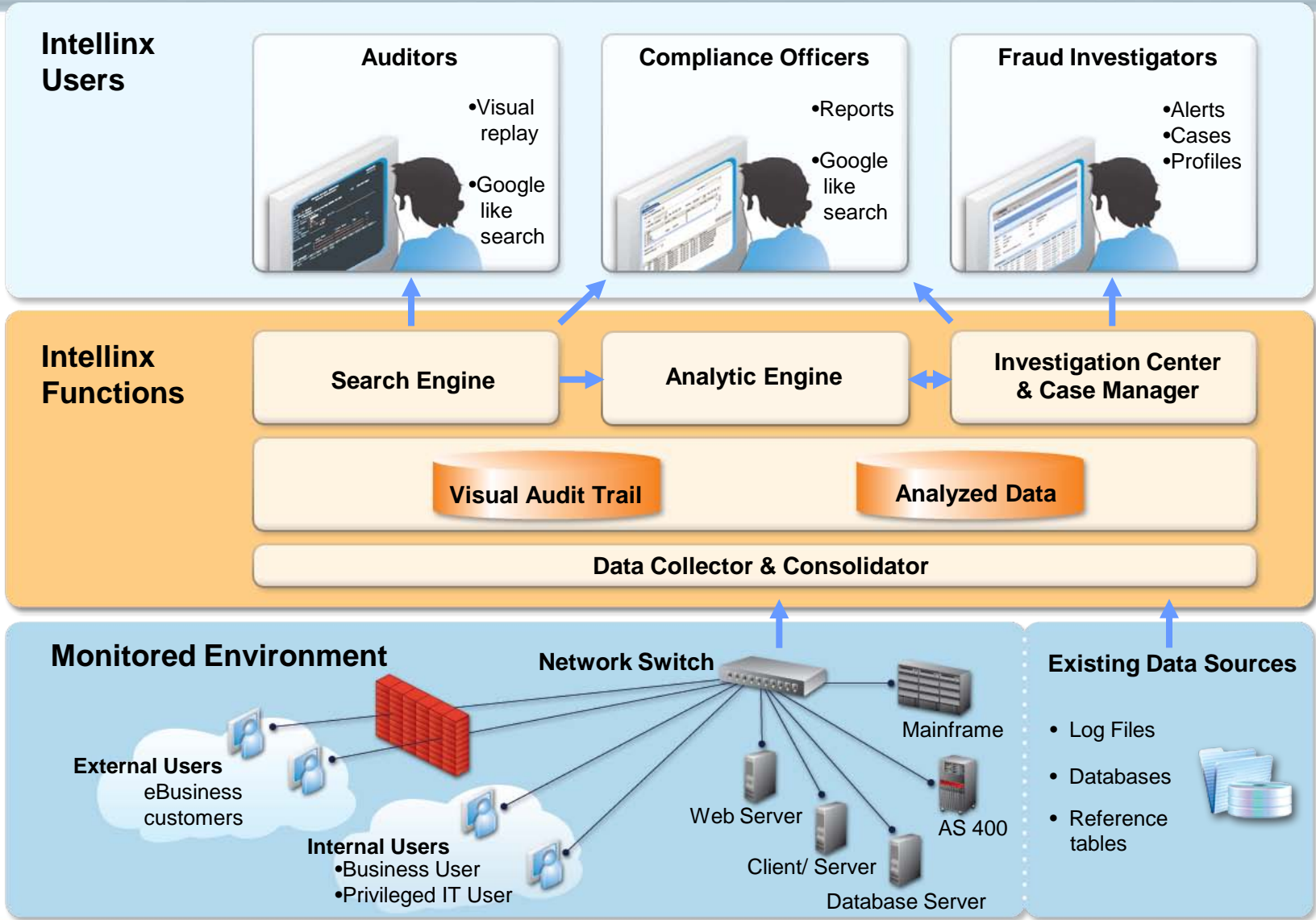
- Manage Cases, Alerts and Incidents
- Flexible Reporting
- Control parameters of rules, profiles and scoring



- Različito ponašanja od sličnih korisnika
  - Homogene grupe korisnika sa sličnim poslovima
- Odstupanje od uobičajnog oblika ponašanja
  - Profiliranje korisnika, računa, klijenta i drugih
- Neubičajena povezanost korisnika i pojedinog klijenta / računa
  - U Call Centrima uočajeno je slučajni redosljed poziva
- Određeni sumnjivi scenariji
  - Promjena adrese nakon čega slijedi reizdavanje kartice
- Korelacija kadrovskih podataka s identitetom korisnika
  - Slična adresa korisnika i klijenta
- Korelacija aktivnosti korisnika s poznatim slučajevima vanjske zloupotrebe
  - Povećan broj aktivnosti korisnika prema vanjskim slučajevima zloupotrebe ili kreditnim karticama prije nego što je detektirana zloupotreba
- Aplikativni Honey Pot
  - Dostupne prividne prevelike ovlasti za sumnjive korisnike i praćenje njihove



# Arhitektura



- Agent-less network traffic sniffing
- No Impact on performance
- Highly scalable architecture
- Very short installation process (several hours), with no risk to normal IT operations
- Recordings stored in extremely condensed format
- Recording data is encrypted and digitally signed – potentially admissible in court when needed

**Monitored Platforms:**

- IBM Mainframe: 3270, MQ, LU0, LU6.2
- IBM System i: 5250, MPTN
- UNISYS T27
- Web: HTTP/ HTTPS
- Client/Server: TCP/IP, MQ Series, MSMQ, SMB
- Telnet, VT100, SSH
- Oracle (SQLNET), DB/2 (DRDA), MS SQL(TDS)
- SWIFT, FIX, ISO8583 (ATM), others

- Dynamic definition of profiles for any entity:
  - End-Users
  - Accounts
  - Customers
  - Any other Entity
- Time Dimension: Hour, Day, Week, Month
- Sample Behavior Attributes:
  - Working hours
  - Number of transactions per day
  - Total amounts of transfers per day
  - Total amounts of deposits per day
  - Number of dormant accounts accessed per day
  - Number of changes to dormant accounts per day
  - Number of account address changes per day
  - Number of beneficiary changes per day
  - Number of VIP queries per day
  - Number of changes to account statement mailing frequency per week
  - Number of credit limit changes per day

- **What?**
  - > Access of a specific account
  - > Access an account included in a White list/ Black list
  - > Access any account more than x times in an hour/day
- **How?**
  - > Search for accounts according to customer name more than x times in an hour/ day
- **When?**
  - > All the above – after hours
- **Where from?**
  - > All the above from which department
- **Time correlation**
  - > Same user-id login from different terminals in the same time
  - > Access customer sensitive data without customer call in the call centre at the same time
- **Data correlation**
  - > Add same address/ beneficiary to different accounts by the same user
- **Aggregation**
  - > Sum of transfers of an account/ user exceeds x
- **Scenario**
  - > Add beneficiary then transfer/withdraw money then delete beneficiary - all in 48 hours
  - > Change address then transfer/withdraw money then delete address - all in 48 hours
  - > Increase credit limit then transfer/withdraw money then decrease credit limit - all in 48 hours

- Više od 300 pravila za detekciju vazličitih vrsta zloupotreba
  - Bankarstvo
  - Osiguranje
  - Informacijska sigurnost
- Pravila izradili stručnjaci iz podrčja detekcije internih zloupotreba (bivši zaposlenici KPMG i službenici bankarskih anti Fraud odjela)
- Bazirana na prikupljenom iskustvu drugih Intellinx korisnika customers
- Nazirana na općim poslovnim pravilima no može se modificirati za potrebe korisnika i njihovih specifičnih aplikacija ili poslovnog procesa
- Bankarstvo:
 

zloupotrebe zaposlenika, curenje informacija, IT sabotaze, zloupotrebe transfera novca, zloupotrebe aplikacija, bankomata, kredinih kartica, čekova, e-bankinga Cards, Check Kiting, AML, eBanking
- Osiguranje:
 

upravljanje korisnicima, upravljanje policama, obrada zahtjeva, rad s agentima



A few examples of common rule types:

- Count suspicious transactions
- Value of suspicious transactions
- Sudden increase in count or value (by % or standard deviation)
- Count or value different from peer group (by % or standard deviation)
- Decision table (e.g., if personal customer, 1x, if corporate customer, 2x)
- White lists (e.g., if customer on list, suppress alerts)
- Hot lists / black lists (e.g., if customer on list, immediately trigger alert)
- Any of the above over time (e.g., count over a week, increase over a month)

- Intellinx ne snima ni jednu aktivnost na korisničkom računalu već samo pristup do poslovnih aplikacija
- Samo ovlaštene osobe mogu pristupiti Intellinx sustavu
- Sustav se može podesiti da nadizre samo određenu aplikaciju ili određenog korisnika, ostale informacije se filtriraju i odbacuju
- Pojedina polja i ekrani koji sadrže vrlo osjetljive informacije se mogu zasjeniti tako da revizori koji koriste sustav ih ne mogu vidjeti
- Svaki pristup do sustava i svaka izvršena akcija se bilježe što omogućuje uvid koje aktivnosti je izvršio pojedini korisnik Intellinx sustava
- Polja koja omogućuju osobnu identifikaciju korisnika (npr. user-id or terminal-id) je moguće zasjeniti za vrijeme pregledavanje snimke sadržaja korisničkog ekrana

# Studija slučaja: Credit Card Company X

Alerts on Celebrity Accounts Snooping



## Prednosti Intellinxa

- Osiguranje individualne odgovornosti korisnika:
  - Vizualni dokaz aktivnosti korisnika uključujući read upite korisnika
- Osiguranje proaktivnosti u smanjenju internih zloupotreba pomoću:
  - Profiliranje korisnika na temelju analize stvarnog ponašanja korisnika
  - Alarmi u stvarnom vremenu
- Provođenje forenzičnih istraga:
  - Primjena novih pravila na već snimljenim podacima
- Osiguranje usklađenosti sa zahtjevima regulatora
- Out-of-box value
  - Potpuno snimanje i pretraživanje neovisno o korištenoj platformi

► **No Agents** ► **No Overhead** ► **No Risk**

# Pitanja ???

<b>RECRO-NET d.o.o.</b>	<b><a href="http://www.recro-net.hr">http://www.recro-net.hr</a></b>
Av. V. Holjevca 40	Tel: +385 1 3030 600
10010 Zagreb	Fax: +385 1 6699 500
	info@recro-net.hr



# Dodatni slajdovi

Type of Rule	Example
Peer group analysis	<ul style="list-style-type: none"> <li>• Tellers inquiring on more accounts than other tellers</li> <li>• Employees accessing more dormant accounts than other tellers</li> </ul>
Historical analysis	<ul style="list-style-type: none"> <li>• Tellers that suddenly increase the number of inquiries they perform on out-of-state accounts</li> </ul>
Transactional link analysis	<ul style="list-style-type: none"> <li>• Call center agent servicing specific accounts repeatedly</li> </ul>
Suspicious scenarios	<ul style="list-style-type: none"> <li>• Real-time: suspicious callers in call center</li> <li>• Address change then card reissue then address change</li> <li>• Employees performing a high rate of transactions against general ledger accounts</li> </ul>
Account link analysis	<ul style="list-style-type: none"> <li>• Customer account with same address as employee</li> </ul>
Case management link analysis	<ul style="list-style-type: none"> <li>• Employee accessed accounts that led to fraud at a higher rate than other employees</li> </ul>

A blue-tinted photograph showing the silhouettes of several people in a dark environment. They are holding flashlights, which create bright beams of light that illuminate the scene. The overall atmosphere is mysterious and focused.

**Solution Demonstration**

**Intellinx in Action**

Reports

- Reports
  - DemoBacklogViewer.1-MF\_Privileged (05/06/2009 17:36:00)
  - DemoBacklogViewer.2-AccountCrossSearch (05/06/2009 17:36:00)
  - DemoBacklogViewer.3-MFScreens (05/06/2009 17:36:00)
  - DemoBacklogViewer.4-Histogram (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.ClientServer (05/06/2009 17:36:00)
  - DemoBacklogViewer.DB (10/26/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport (01/03/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport1 (01/03/2009 17:36:00)
  - DemoBacklogViewer.FTP (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_Command\_on\_t (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_cutsomer\_name (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_user\_id (11/03/2009 17:29:00)
  - DemoBacklogViewer.session\_34255DCDB75 (11/03/2009 17:29:00)
  - DemoBacklogViewer.VT (11/03/2009 11:04:00)
  - DemoBacklogViewer.Web (02/16/2010 00:21:00)
  - DemoBacklogViewer.WebMail (02/04/2010 11:04:00)
  - DemoBacklogViewer.WindowsLog (11/03/2009 17:29:00)
  - Viewer.WebMail (08/03/2008 20:41:04)

DemoBacklogViewer.Web

Query configuration

Query type: Sessions Viewer: DemoBacklogViewer Data Channel: DemoWebDataChannel

In the last: 10 Years
 Session state:  All  Active  Closed

Date from: 05/02/2007 Time: 00:00:00 to: 05/02/2007 Time: 23:59:59

Time slice: between : : and : :

Column	Operator	Value	Display	Alias	Sort Order	Sort Type
▶ Session started			<input checked="" type="checkbox"/>			
▶ Session ended			<input checked="" type="checkbox"/>		1	Descending
▶ Total event count			<input checked="" type="checkbox"/>			
▶ Client			<input checked="" type="checkbox"/>			
▶ Server			<input checked="" type="checkbox"/>			

Search for Text:   Case Sensitive  Whole Word  Regular Expressions  Hex

Records per page: 50  Auto Refresh

Reports

- Reports
  - DemoBacklogViewer.1-MF\_Privileged (05/06/2009 17:36:00)
  - DemoBacklogViewer.2-AccountCrossSearch (05/06/2009 17:36:00)
  - DemoBacklogViewer.3-MFScreens (05/06/2009 17:36:00)
  - DemoBacklogViewer.4-Histogram (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.ClientServer (05/06/2009 17:36:00)
  - DemoBacklogViewer.DB (10/26/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport (01/03/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport1 (01/03/2009 17:36:00)
  - DemoBacklogViewer.FTP (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_Command\_on\_t (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_cutsomer\_name (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_user\_id (11/03/2009 17:29:00)
  - DemoBacklogViewer.session\_34255DCDB75 (11/03/2009 17:29:00)
  - DemoBacklogViewer.VT (11/03/2009 11:04:00)
  - DemoBacklogViewer.Web (02/16/2010 00:21:00)
  - DemoBacklogViewer.WebMail (02/04/2010 11:04:00)
  - DemoBacklogViewer.WindowsLog (11/03/2009 17:29:00)
  - Viewer.WebMail (08/03/2008 20:41:04)

DemoBacklogViewer.Web

Query configuration

Query type: Sessions Viewer: DemoBacklogViewer Data Channel: DemoWebDataChannel

In the last: 10 Years  
 Date from: 05/02/2007 Time  
 Time slice: between

Column	Operator
▶ Session started	
▶ Session ended	
▶ Total event count	
▶ Client	
▶ Server	

Search for Text: [ ]

Records per page: 50

Save Results Export Results

Select Data Channel/s

- DemoWebDataChannel
- DemoStructuredDataChannel
- MSEventsDataChannel
- DemoSOAPDataChannel
- DemoFTPDataChannel
- VTScreenDataChannel
- DemoScreenDataChannel
- DemoDRDADDataChannel
- DemoTDSDataChannel
- DemoTNSDataChannel

Select All Deselect All

OK Cancel



Reports

- Reports
  - DemoBacklogViewer.1-MF\_Privileged (05/06/2009 17:36:04)
  - DemoBacklogViewer.2-AccountCrossSearch (05/06/2009 17:36:04)
  - DemoBacklogViewer.3-MFScreens (05/06/2009 17:36:04)
  - DemoBacklogViewer.4-Histogram (05/06/2009 17:36:04)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:04)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:04)
  - DemoBacklogViewer.ClientServer (05/06/2009 17:36:04)
  - DemoBacklogViewer.DB (10/26/2009 17:36:04)
  - DemoBacklogViewer.EventViewerReport (01/03/2009 17:29:04)
  - DemoBacklogViewer.EventViewerReport1 (01/03/2009 17:29:04)
  - DemoBacklogViewer.FTP (11/03/2009 17:29:04)
  - DemoBacklogViewer.Oracle\_Command\_on\_time (11/03/2009 17:29:04)
  - DemoBacklogViewer.Oracle\_cutsomer\_name (11/03/2009 17:29:04)
  - DemoBacklogViewer.Oracle\_user\_id (11/03/2009 17:29:04)
  - DemoBacklogViewer.session\_34255DCDB751 (11/03/2009 17:29:04)
  - DemoBacklogViewer.VT (11/03/2009 11:04:04)
  - DemoBacklogViewer.Web (02/16/2010 00:21:04)
  - DemoBacklogViewer.WebMail (02/04/2010 11:04:04)
  - DemoBacklogViewer.WindowsLog (11/03/2009 17:29:04)
  - Viewer.WebMail (08/03/2008 20:41:04)

\*DemoBacklogViewer.Web

Query configuration

Query type: Sessions Viewer: DemoBacklogViewer Data Channel: DemoWebDataChannel

In the last: 10 Years Session state: All Active Closed

Date from: 05/02/2007 Time: 00:00:00 to: 05/02/2007 Time: 23:59:59

Time slice: between

Column	Operator	Value	Display	Alias	Sort Order	Sort Type
Session started			<input checked="" type="checkbox"/>			
Session ended			<input checked="" type="checkbox"/>		1	Descending
Total event count			<input checked="" type="checkbox"/>			
Client			<input checked="" type="checkbox"/>			
Server			<input checked="" type="checkbox"/>			

Search for Text: Case Sensitive Whole Word Regular Expressions Hex

Records per page: 50 Auto Refresh

Save Results Export Results Extract Recordings Execute Query Refresh Results

	UserId	Session started	Session ended	Total event count	Client	Server	Data Channel Name
1	pamw	05/02/2007 12:23:14	05/02/2007 12:25:11	128	192.168.1.146	192.168.1.27	DemoWebDataChannel
2	pamw	05/02/2007 12:20:55	05/02/2007 12:22:04	102	192.168.1.104	192.168.1.27	DemoWebDataChannel
3	dalek	05/02/2007 12:17:50	05/02/2007 12:18:45	103	192.168.1.104	192.168.1.27	DemoWebDataChannel
4	dalek	05/02/2007 12:13:08	05/02/2007 12:14:32	127	192.168.1.146	192.168.1.27	DemoWebDataChannel
5	dalek	05/02/2007 12:02:15	05/02/2007 12:03:50	127	0.0.0.0	192.168.1.27	DemoWebDataChannel
6	bartm	05/02/2007 11:45:22	05/02/2007 11:47:55	115	0.0.0.0	192.168.1.27	DemoWebDataChannel
7	pamw	05/02/2007 11:38:00	05/02/2007 11:42:55	113	0.0.0.0	192.168.1.27	DemoWebDataChannel
8	jerrym	05/02/2007 11:34:12	05/02/2007 11:36:27	113	0.0.0.0	192.168.1.27	DemoWebDataChannel
9	johnk	05/02/2007 11:27:06	05/02/2007 11:30:52	83	0.0.0.0	192.168.1.27	DemoWebDataChannel

1 - 12 of 12 records

Reports

- Reports
  - DemoBacklogViewer.1-MF\_Privileged (05/06/2009 17:36:00)
  - DemoBacklogViewer.2-AccountCrossSearch (05/06/2009 17:36:00)
  - DemoBacklogViewer.3-MFScreens (05/06/2009 17:36:00)
  - DemoBacklogViewer.4-Histogram (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.audit\_events\_in\_session (05/06/2009 17:36:00)
  - DemoBacklogViewer.ClientServer (05/06/2009 17:36:00)
  - DemoBacklogViewer.DB (10/26/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport (01/03/2009 17:36:00)
  - DemoBacklogViewer.EventViewerReport1 (01/03/2009 17:36:00)
  - DemoBacklogViewer.FTP (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_Command\_on\_the\_line (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_cutsomer\_name (11/03/2009 17:29:00)
  - DemoBacklogViewer.Oracle\_user\_id (11/03/2009 17:29:00)
  - DemoBacklogViewer.session\_34255DCDB751 (11/03/2009 17:29:00)
  - DemoBacklogViewer.VT (11/03/2009 11:04:00)
  - DemoBacklogViewer.Web (02/16/2010 00:21:00)
  - DemoBacklogViewer.WebMail (02/04/2010 11:04:00)
  - DemoBacklogViewer.WindowsLog (11/03/2009 17:29:00)
  - Viewer.WebMail (08/03/2008 20:41:04)

DemoBackl

Query configuration

Query type: Sessions

In the last: 10

Date from: 05/02/2009

Time slice: be

Column

- Session started
- Session ended
- Total event count
- Client
- Server

Search for Text:

Records per page: 50

Save Results Export Res

	UserId	Session s
1	pamw	05/02/2009
2	pamw	05/02/2009
3	dalek	05/02/2009
4	dalek	05/02/2009
5	dalek	05/02/2009
6	bartm	05/02/2009
7	pamw	05/02/2009
8	jerry	05/02/2009
9	johnk	05/02/2009

1 - 12

Replay: 05/02/2007 12:17:50.035, dalek

UnIdentified

103+ 1

GET: /RoyalBank/ Response: HTTP/1.1 200 OK

Field

- Request
  - Url
  - Header
    - accept-enc
    - connection
    - accept-lang
    - host
    - client
    - user-agent
    - ua-cpu
    - accept
  - Post
  - Data
- Response
  - Response
  - 200
  - Header
    - content-len
    - set-cookie
    - content-typ
    - date
    - server
  - Data
- Response D
- Components
  - /RoyalBank
  - /RoyalBank
  - /RoyalBank

My Account | Get Quotes | P

ROYAL COMMERCE BANK

Step 1 Event 1 Fra...ets

Replay: 05/02/2007 12:17:50.035, dalek

UnIdentified 103+ 1

GET: /RoyalBank/ Response: HTTP/1.1 200 OK

- Field
  - Request
    - Url
    - Header
      - accept-
      - connect
      - accept-l
      - host
      - user-ag
      - ua-cpu
      - accept
    - Post
  - Data
    - Request
  - Response
    - Response
      - 200
    - Header
      - content
      - set-cool
      - content
      - date
      - server
    - Data
      - Respon:
    - Component:
      - /RoyalB
      - /RoyalB
      - /RoyalB
      - /RoyalB
      - /RoyalB
      - /RoyalB

The screenshot displays the Royal Commerce Bank website. At the top, there is a navigation menu with links: My Account | Get Quotes | Portfolio Tracker | Corporate/Listing | Company News | Support. Below the navigation is a banner with the Royal Commerce Bank logo and a date/time stamp: Wed May 02 11:17:50 GMT+02:00 2007. The main content area features a 'Please Login' form with fields for Username and Password, a 'Forgot Password?' link, and a 'Login' button. The website has a light blue and white color scheme with a sunburst graphic in the background.

GET: /RoyalBank/login.jsp Response: HTTP/1.1 200 OK

Field
Request
Url
password
username
Header
accept-enc
referer
connection
accept-lang
host
user-agent
ua-cpu
cookie
accept
Post
Data
Request Da
Response
Response
200
Header
content-len
content-typ
date
server
Data
Response C
Components

**User Details**

DALEK DALE KROWN  
Dept. : BRANCH 100

Search Customer
Wed May 02 11:17:50 GMT+02:00 2007

Customer ID:

SSN:

First Name:

Last Name:

**Welcome DALE KROWN**

Please choose one of the options from the menu on the right.  
After finishing, don't forget to logout from the system.

Have a nice day.

- [Customers](#)
- [Accounts](#)
- [Transactions](#)
- [Credit](#)
- [Investments](#)
- [Logout](#)

My Account | Get Quotes | Portfolio Tracker | Corporate/Listing | Company News | Support

GET: /RoyalBank/login.jsp Response: HTTP/1.1 200 OK

Field	Value
Request	
Url	
password	*****
username	dalek
Header	
accept-encoding	gzip, deflate
referer	http://intellinx-test:80...
connection	Keep-Alive
accept-language	he
host	intellinx-test:8080
user-agent	Mozilla/4.0 (compatibl...
ua-cpu	x86
cookie	JSESSIONID=9F0B50...
accept	image/gif, image/x-xbi...
Post	
Data	
Request Data	
Response	
Response	
200	HTTP/1.1 200 OK
Header	
content-length	747
content-type	text/html; charset=IS...
date	Wed, 02 May 2007 09...
server	Apache-Coyote/1.1
Data	
Response Data	<html><hea...
Components	
/RoyalBank/main.j	39
/RoyalBank/	1
/RoyalBank/custor	42
/RoyalBank/connec	40

**ROYAL COMMERCE BANK**

My Account | Get Quotes | Portfolio Tracker | Corporate/Listing

User Details

DALEK DALE KROWN  
 Dept. : BRANCH 100

Search Customer Wed May 02

Customer ID:  SSN:

First Name:  Last Name:

**Welcome DALE KROWN**

Please choose one of the options from the menu on the right. After finishing, don't forget to logout from the system.

Have a nice day.

- ▶ Customers
- ▶ Accounts
- ▶ Transactions
- ▶ Credit
- ▶ Investments
- ▶ Logout

Replay: 05/02/2007 12:17:50.035, dalek

UnIdentified

GET: /RoyalBank/search\_customer.jsp Response: HTTP/1.1 200 OK

- Field
- Request
- Url
- cust
- cust
- cust
- cust
- Header
- acce
- refe
- com
- acce
- host
- user
- ua-c
- cool
- acce
- Post
- Data
- Req
- Response
- Respon:
- 200
- Header
- conl
- conl
- date
- serv
- Data
- Res
- Compor



**User Details**

DALEK DALE KROWN  
Dept. : BRANCH 100

- Customers
- Accounts
- Transactions
- Credit
- Investments
- Logout

My Account | Get Quotes | Portfolio Tracker | Corporate/Listing | Company News | Support

Search Customer Wed May 02 11:17:50 GMT+02:00 2007

Customer ID:  SSN:

First Name:  Last Name:

**Search Customers By Name** [Prev](#) [Next](#)

Customer Name	Id	Type	SSN	Address	Phone Number
Jerry Smith	300622	p	489807733	5TH AVE. NEW YORK CITY NY USA	
Nill Novak	300644	p	650743397	17 Shmel st Bridgend NJ USA	
Nancy Halls	300653	p	857579365	51 Long st Brighton NJ USA	
William Brook	300816	p	594136544	23 New ave London NJ USA	
Wesley Weston	300829	p	323245238	9 ESTATES Loughboro NJ USA	
Colin Donahue	300842	p	888594983	5 Red st. Luton NJ USA	732-465-4437
Janet Vanness	300854	p	500607948	32 Etna road Macclesfie NJ USA	

Replay: 05/02/2007 12:17:50.035, dalek

UnIdentified

GET: /RoyalBank/main.jsp Response: HTTP/1.1 302 Moved Temporarily

- Field
- Request
  - Url
  - dest
  - Header
  - acce
  - refe
  - con
  - acce
  - host
  - user
  - ua-c
  - cool
  - acce
  - Post
  - Data
  - Req
  - Response
  - Respon:
  - 302
  - Header
  - con
  - con
  - loca
  - date
  - serv
  - Data
  - Res
  - Compor



**User Details**

DALEK DALE KROWN  
Dept. : BRANCH 100

- Customers
- Accounts
- Transactions
- Credit
- Investments
- Logout

My Account | Get Quotes | Portfolio Tracker | Corporate/Listing | Company News | Support

**Customer Details** Wed May 02 11:17:50 GMT+02:00 2007

**Name:** Nill Novak Customer ID: [300644](#)  
**Address:** 17 Shmel st SSN: 650743397  
 Bridaend Current Balance: 0.00

**Customer ID: 300644**

Last Name:	<input type="text" value="Novak"/>	Address, St.:	<input type="text" value="17 Shmel st"/>
First Name:	<input type="text" value="Nill"/>	City:	<input type="text" value="Bridgend"/>
SSN:	<input type="text" value="650743397"/>	State:	<input type="text" value="NJ"/>
Customer Type:	<input type="text" value="Private"/>	Country:	<input type="text" value="USA"/>
Email:	<input type="text"/>	Postal Code:	<input type="text" value="655554"/>

Telephone:

	Number	Ext.	Preferences
Work:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Work:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Mobile:	<input type="text"/>	<input type="text"/>	<input type="text"/>



## Case #1 Demo: Stealing from Dormant Accounts

**How can we  
Automatically detect  
the Red Flags and  
avoid false alerts?**

Alert 00016

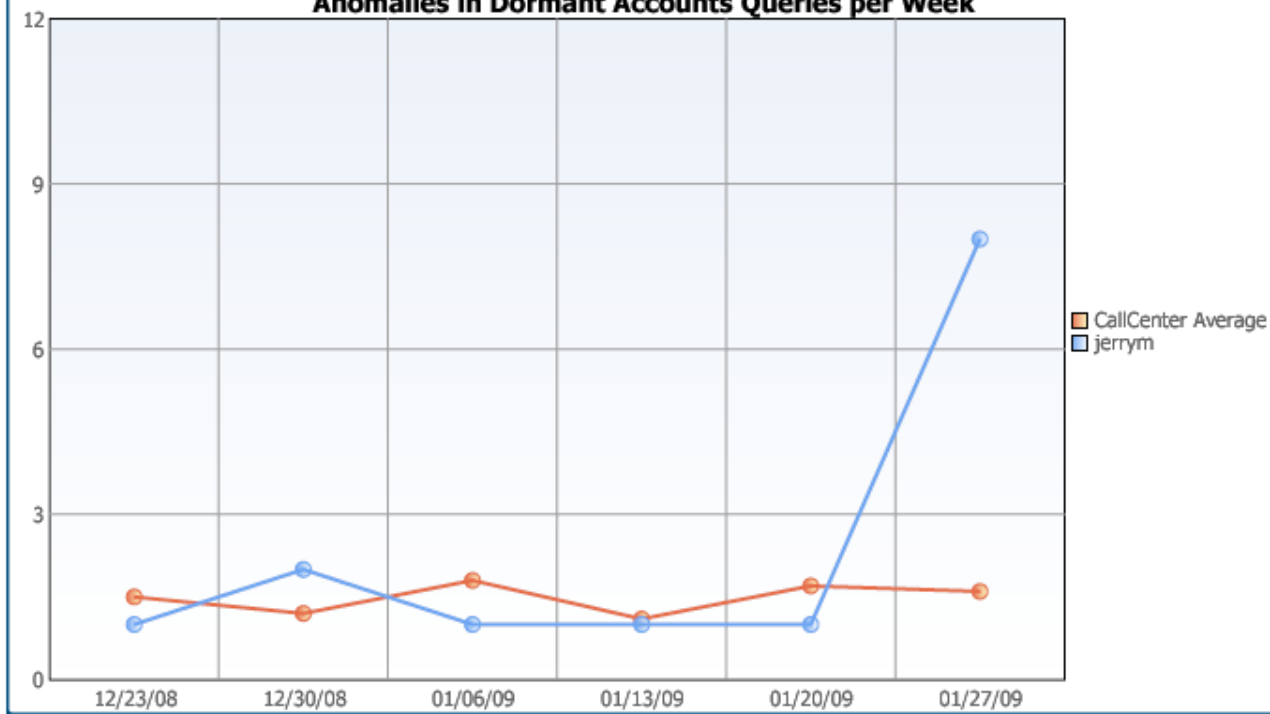
Alert

Alert #: 00016  
 Type: User High Sc  
 Source: Rule Engine  
 Employee: [jerrym](#)  
 Account:  
 Description: Dormant Acc

Related Issues

	id	Account Id
<a href="#">Details</a>	00001	<a href="#">5180495</a>
<a href="#">Details</a>	00002	<a href="#">5180505</a>
<a href="#">Details</a>	00003	<a href="#">5180564</a>
<a href="#">Details</a>	00004	<a href="#">5180524</a>
<a href="#">Details</a>	00005	<a href="#">5180535</a>

Anomalies in Dormant Accounts Queries per Week



Done		Trusted sites	
00016	<a href="#">300580</a>	Dormant Account Query	23/01/09 13:22
00016	<a href="#">300520</a>	Dormant Account Query	24/01/09 11:13
00016	<a href="#">300531</a>	Dormant Account Query	25/01/09 10:02

Alerts

Alert 00016

Alert Details



<b>Alert #:</b>	00016	<b>Owner:</b>	Insider Fraud Team
<b>Type:</b>	User High Score	<b>Date:</b>	01/27/09 08:33
<b>Origin:</b>	Rule Engine	<b>Score:</b>	112
<b>Employee:</b>	jerrym	<b>Customer:</b>	
<b>Account:</b>	<ul style="list-style-type: none"> <li>Link Analysis: Dormant Account Access</li> <li>Link Analysis: Employees-Accounts</li> </ul>		
<b>Description:</b>	Dormant Account Handling by User		

Notes



Total 1 records

Note type	Text	Private
General	The employee has disciplinary issues	<input type="checkbox"/>

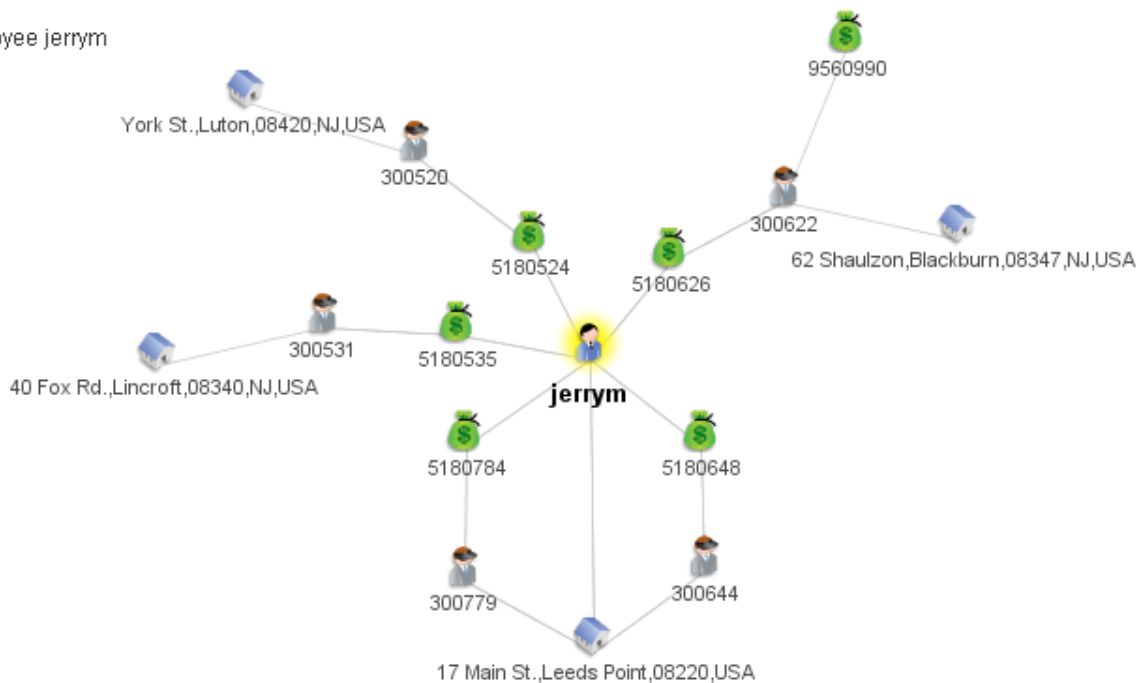
Related Issues

Total 8 records

Alerts

Link Analysis: Dormant Account Access

Employee jerrym



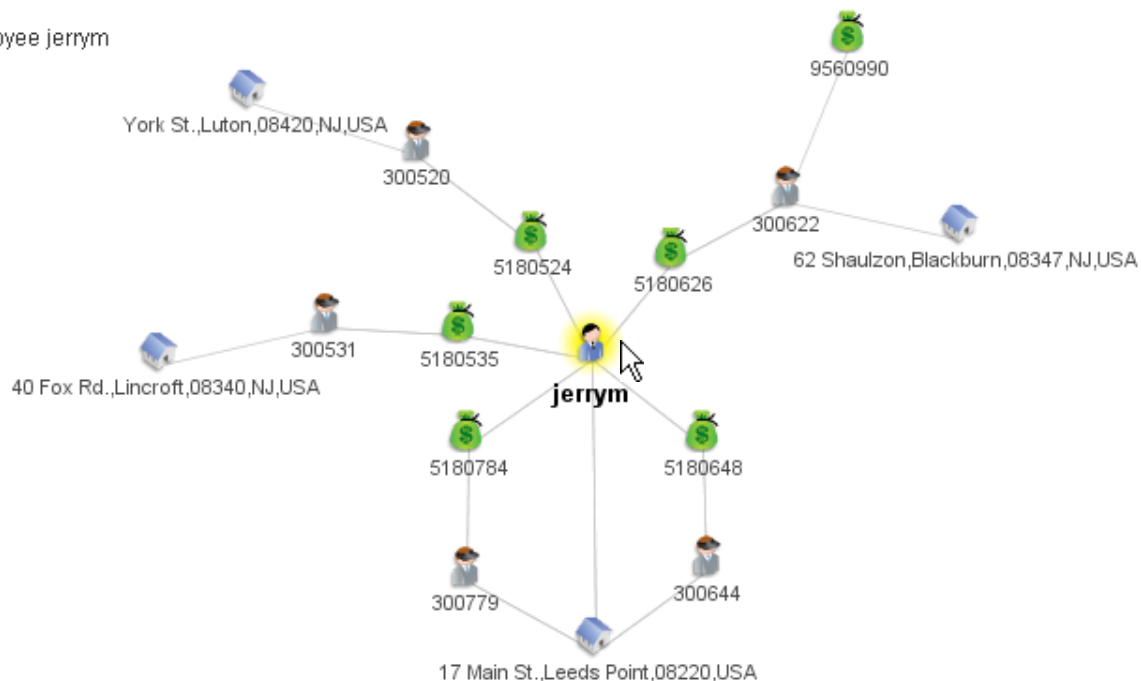
General Legend

- Account#
- Address
- Customer#
- Employee

Alerts

Link Analysis: Dormant Account Access

Employee jerrym



General Legend

Start date: 01/24/2009

End date: 01/30/2009

Depth: 3

Show Risk Coloring:

- From Low to High
- Medium and High
- High only
- None

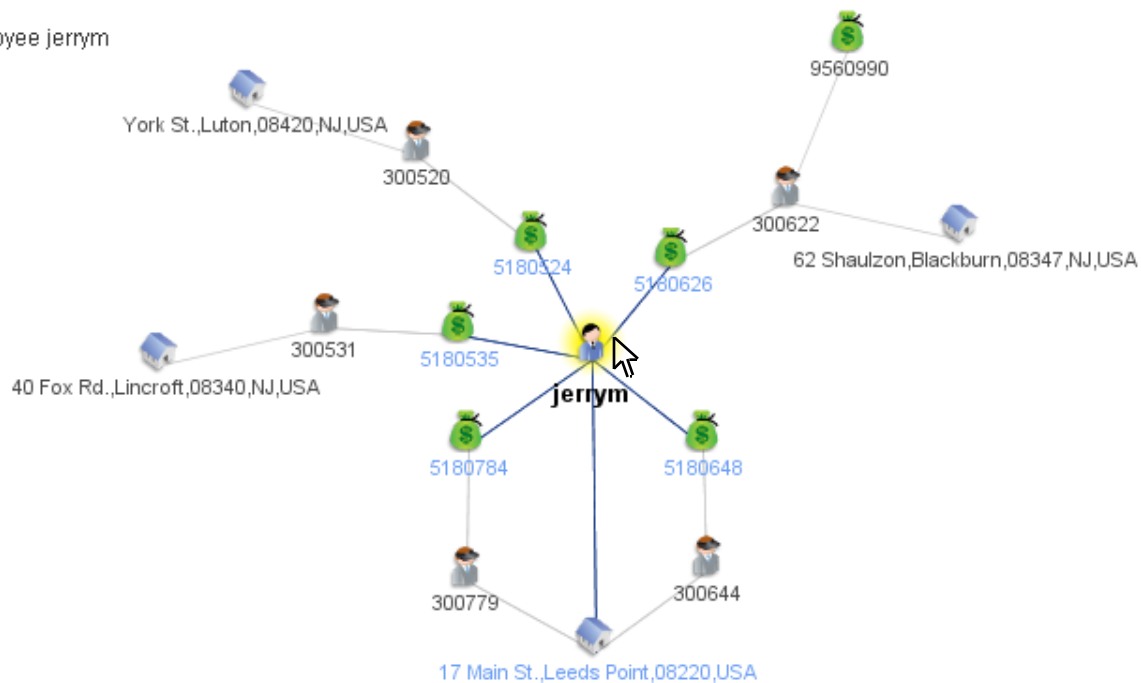
Auto Fit 1:1

Refresh

Alerts

Link Analysis: Dormant Account Access

Employee jerrym



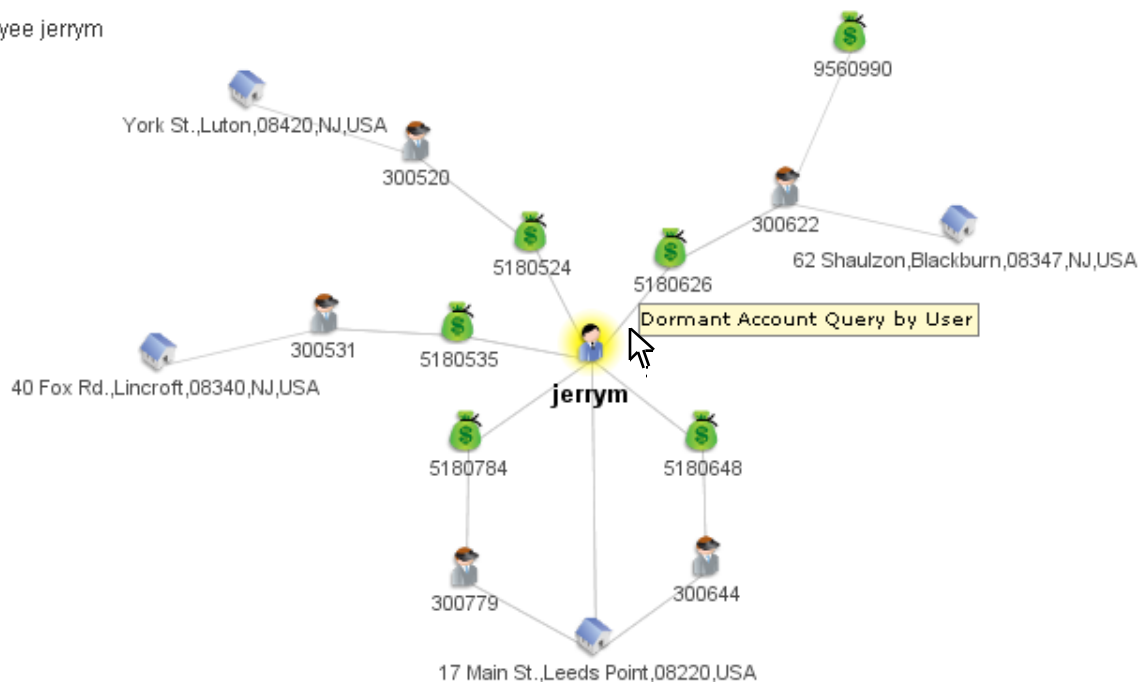
General Legend

- Account#
- Address
- Customer#
- Employee

Alerts

Link Analysis: Dormant Account Access

Employee jerrym



General Legend

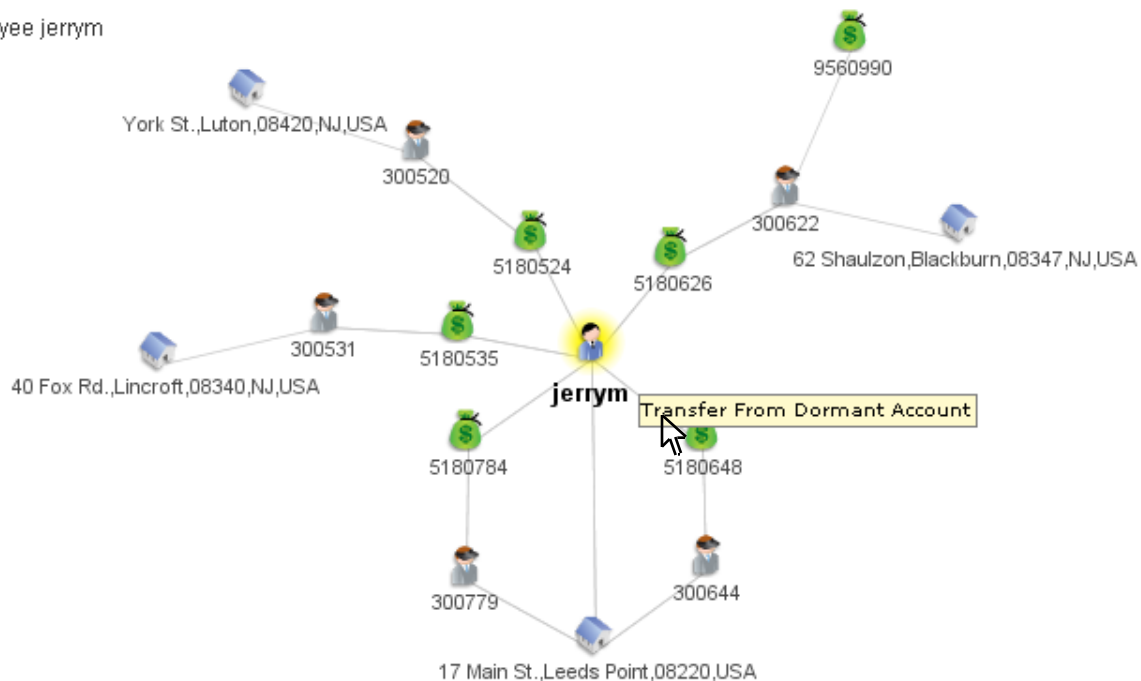
- Account#
- Address
- Customer#
- Employee



Alerts

Link Analysis: Dormant Account Access

Employee jerrym



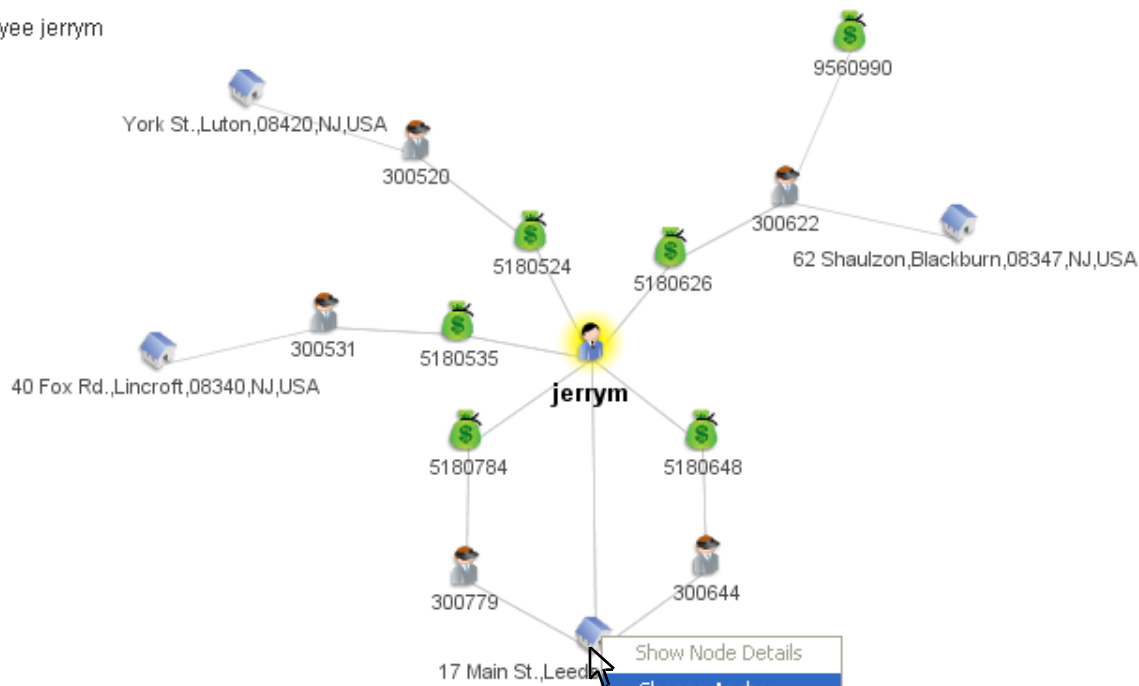
General Legend

- Account#
- Address
- Customer#
- Employee

Alerts

Link Analysis: Dormant Account Access

Employee jerrym



General Legend

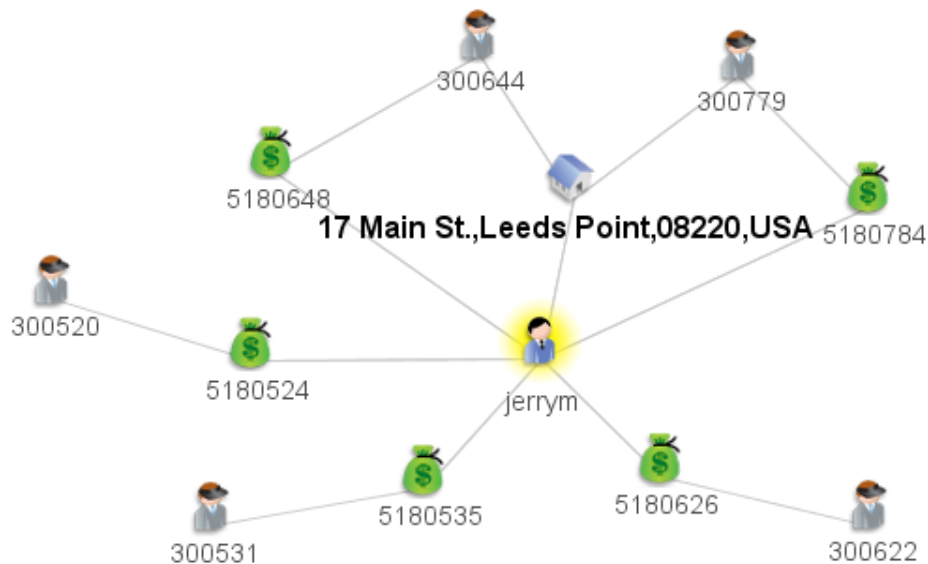
- Account#
- Address
- Customer#
- Employee

Show Node Details  
 Change Anchor  
 Auto Fit  
 1:1

Alerts

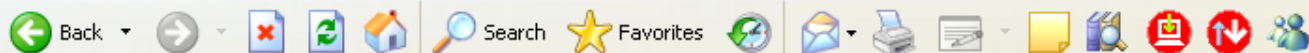
Link Analysis: Dormant Account Access

Address 17 Main St.,Leeds Point,08220,USA



General Legend

- Account#
- Address
- Customer#
- Employee

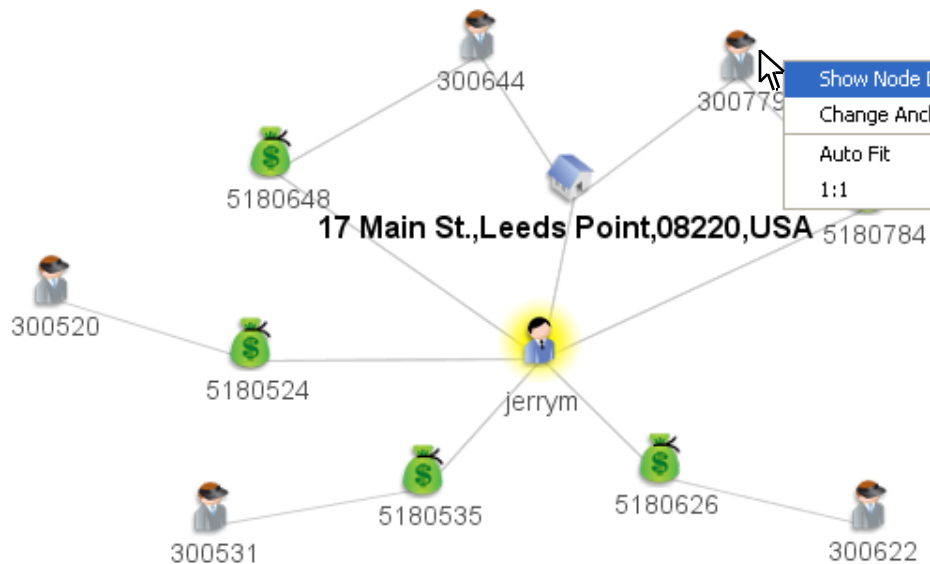


Address http://localhost:7780/InvestigationCenter/pages/module/ModuleDetails.jsf?conversationContext=0

Alerts

Link Analysis: Dormant Account Access

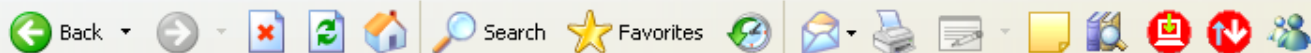
Address 17 Main St.,Leeds Point,08220,USA



- Show Node Details
- Change Anchor
- Auto Fit 1:1

General Legend

- Account#
- Address
- Customer#
- Employee



Address http://localhost:7780/InvestigationCenter/pages/module/ModuleDetails.jsf?conversationContext=6

Home Cases Alerts Reports Dashboards Search Rules

Alerts > Link Analysis: Dormant Account Access

Customer# 300779

Link Analysis: Dormant Account Access

Customer #: 300779

Full Name: Harris Beth

SSN: 191-22-4465

Address: 17 Main St.,Leeds Point,08220,USA

▶ Accessing Customer Account

▼ Changing Customer Address

Total 1 records

Timestamp	Customer	Old Address	New Address
08/16/08 02:50	300779	23 Broad St.,Luton,082370,USA	17 Main St.,Leeds Point,08220,USA

▼ Related Issues

Total 1 records

id	Rule ID	Description	Score	Detected At	Customer ID	Account Id	User ID
----	---------	-------------	-------	-------------	-------------	------------	---------

Changing Customer Address 00125

Changing Customer Address Details



<b>ID:</b>	00125	<b>Timestamp:</b>	08/16/08 02:50
<b>Customer:</b>	<u>300779</u> ▼	<b>Employee:</b>	<u>jerryvm</u> ▼
<b>Old Address:</b>	23 Broad St.,Luton,082370,USA		<b>New Address:</b> 17 Main St.,Leeds Point,08220,USA

# Case: Profiling of Call Centre Agents



**Normal Behavior:** Call-Centre Representative receives customer call; accesses customer data on mainframe

**Intellinx Detects Suspicious Behavior:** Call-Centre Representative accesses customer data on mainframe without prior receipt of a call



## ▼ Dormant Account Query by User

	id	Account Id	Customer ID	Data channel	Employee Group	Timestamp	User ID
<a href="#">Details</a>   <a href="#">Replay</a>	00001	<a href="#">5180495</a>	<a href="#">300491</a>	ScreenDC	Call Center	23/01/09 10:08	jerrym
<a href="#">Details</a>   <a href="#">Replay</a>	00002	<a href="#">5180505</a>	<a href="#">300501</a>	ScreenDC	Call Center	23/01/09 10:52	jerrym
<a href="#">Details</a>   <a href="#">Replay</a>	00003	<a href="#">5180564</a>	<a href="#">300560</a>	ScreenDC	Call Center	23/01/09 13:18	jerrym
<a href="#">Details</a>	00004	<a href="#">5180524</a>	<a href="#">300520</a>	ScreenDC	Call Center	24/01/09 11:10	jerrym
<a href="#">Details</a>	00005	<a href="#">5180535</a>	<a href="#">300531</a>	ScreenDC	Call Center	25/01/09 10:00	jerrym
<a href="#">Details</a>	00006	<a href="#">5180626</a>	<a href="#">300622</a>	ScreenDC	Call Center	24/01/09 10:54	jerrym

## ▼ Changing Customer Address

	Timestamp	Account	Customer	Old Address	New Address
<a href="#">Details</a>   <a href="#">Replay</a>	15/08/08 07:06		<a href="#">300491</a>	63 RUTHRAUFF ST.,Abby Hulton,66666,NJ,USA	63 Ruthrauff st.,Abby Hulton,66666,NJ,USA
<a href="#">Details</a>   <a href="#">Replay</a>	16/08/08 02:05		<a href="#">300549</a>	72 Sea road,Lampeter,JU34,NJ,USA	73 SEA ROAD,Lampeter,JU34,NJ,USA

## ▼ Changing Account Additional Owner

	Timestamp	Account	Employee
<a href="#">Details</a>   <a href="#">Replay</a>	15/08/04 07:05	<a href="#">5180495</a>	jerrym
<a href="#">Details</a>   <a href="#">Replay</a>	15/08/04 08:12	<a href="#">5180544</a>	jerrym
<a href="#">Details</a>   <a href="#">Replay</a>	16/08/04 07:35	<a href="#">5180626</a>	jerrym

## ▼ Cash Transactions

	id	Acountid	Amount	Branch	Date	Teller	Transaction Branch	Transaction Type
<a href="#">Details</a>	00001	<a href="#">5180495</a>	2,200.00		25/01/09 12:04	jerrym		
<a href="#">Details</a>	01008	<a href="#">5180495</a>	9,100.00	168	19/08/08 13:42	jerrym	152	Withdrawal
<a href="#">Details</a>	01108	<a href="#">5180505</a>	100.00	168	22/08/08 13:42	jerrym	152	Withdrawal
<a href="#">Details</a>	01208	<a href="#">5180614</a>	100.00	168	21/08/08 13:42	jerrym	152	Withdrawal