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ACC NATIONAL CAPITAL REGION TECHNOLOGY AND IP FORUM:

Protecting Digital Assets from Theft

Panelists







Jaye S. Campbell

Deputy General Counsel –
Head of Litigation

CoStar Group
jscampbell@costar.com

202-623-5257

Nicholas J. Boyle
Partner
Williams & Connolly
nboyle@wc.com
202-434-5343

David Randall J. Riskin
Partner
Williams & Connolly
driskin@wc.com
202-434-5789

Agenda

- 1 Introduction to CoStar Group
- ² CoStar's Digital Asset Theft Problem
- In-house Strategies for Digital Asset Protection
- 4 Pre-litigation Case Studies
- Competitor Litigation Case Study Xceligent
- User-Theft Case Study Database-Fraud Litigation
- Conclusion/Q&A





Largest Commercial Real Estate Information & Analytics Database



Most Heavily Trafficked CRE Marketplace



Most Heavily Trafficked Business for Sale Marketplace



Most Heavily Trafficked Digital Rental Marketplace



Most Heavily Trafficked Land for Sale Marketplace



Millions of brokers, owners, tenants and others search for listings on CoStar's marketplaces every day





showcase CITYFEET













and the first annual protection in the control of t

Richmond Times-Dispatch

\$1.50 · TUESDAY, OCTOBER 25, 2016 · NEWS 24/7 AT RICHMOND.COM · FINAL

COMMERCIAL REAL ESTATE DATA FIRM

CoStar to bring 730 jobs to new HQ in Richmond



Health law's premiums set to rise sharply

HHS predicts average 25% jump before subsidies

BY RICARDO ALONSO-ZALDIVAR

The Associated Press

WASHINGTON — Premiums will go up sharply next year under President Barack Obama's health care law, and many consumers will be down to versy involving the Affordable Care Act, also known as Obamacare, shortly before the presidential election.

Before taxpayer-provided subsidies, premiums for a midlevel benchmark plan will increase an average of 25 percent across the 39 states, including Virginia, served by the federally run online market, according to a report from the Department of Health and Human Server.



FIELD RESEARCH

AERIAL

RESEARCH









FIELD RESEARCH

200 VEHICLES



4,000,000+

Buildings VISITED



Theft Issues Confronting CoStar

Competitor Theft:

Competitors seek to "build" competing databases and marketplaces by copying CoStar content or inducing CoStar subscribers to share CoStar content

User Theft (Password Sharing):

Individuals and entities that do not subscribe to CoStar find ways to get access



CoStar's Digital Asset Protection Checklist

- 1. Register photos with the Copyright Office
- 2. Display binding terms of use on all websites
- 3. Deploy cutting edge digital content protection technologies
- 4. Attempt to stop theft by increasing security
- 5. Build comprehensive record of theft
- 6. Employ a theft team to monitor product usage and website traffic and to resolve confirmed instances of theft
- 7. Litigate when theft cannot be amicably remediated



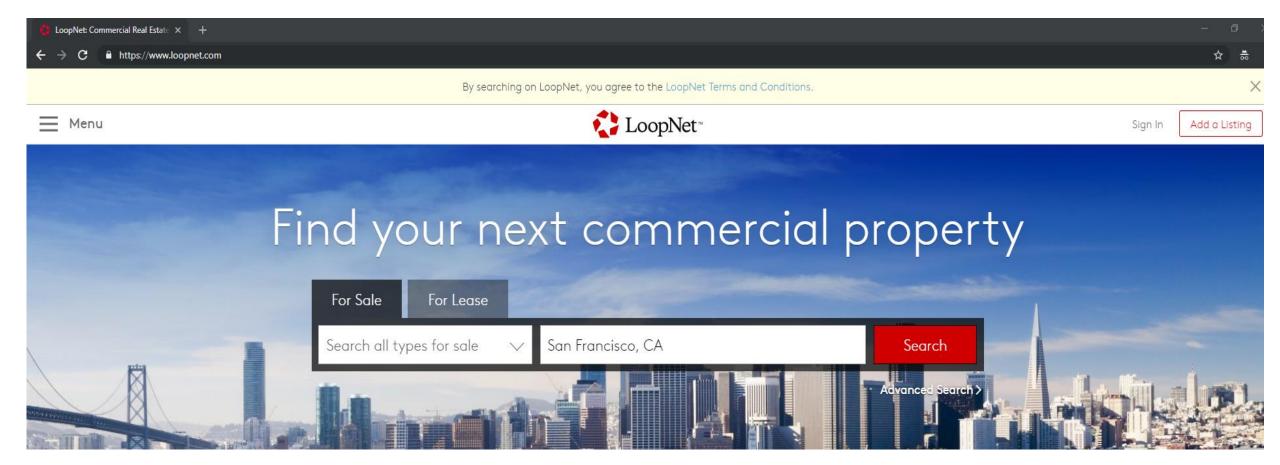
Copyright Registration

- The Copyright Act permits the owner of a work to register the work with the Copyright Office
- Photos can be bulk registered
- Statutory damages are available for registered works:
 - Up to \$150,000 per work infringed for willful infringement
 - Attorneys' fees
 - Copyright is a strict liability tort; few defenses
- Not all content is protected by U.S. copyright law



Terms of Use

 The more the user must interact with the TOU, the more likely they are to be enforceable



Leverage Technology

- Monitor and block excessive searching, page views and time in product
- Block countries from which normal website or product usage would not originate
- Block suspicious IP addresses, e.g. those associated with data mining, malicious web activity, or competitors
- Build real-time alerting based on suspicious website or product activity
- Alter the user experience based on alerts



Staff Appropriately – Theft Team

- Analysts, data scientists and investigators
- Monitor website and product usage for anomalies
- Immediate blocking of suspicious activity and notice
- Live call by investigator empowered with comprehensive electronic records
- Strong internal relationships with IT-Security and Product Development



Case Study 1: Technology + Theft Team

Legit CoStar credentials are issued to Heather of Company A

- 1. Heather's account triggers a "bumpout" alert
- 2. Heather's account has suspiciously named devices:

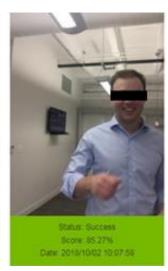
Licensed Browser Devices			
Device	# Activations	% Used	Last Login
Mike.	1	61.82	10/9/2018 2:40:59 PM
Laptop 1	1	16.36	10/4/2018 9:56:11 PM
Andrew	2	16.36	10/3/2018 5:57:36 PM
Heather's Work Computer	1	3.64	9/19/2018 4:58:37 PM
Laptop	1	1.82	9/10/2018 10:41:49 AM



Heather's Security Mode is Elevated to Facial







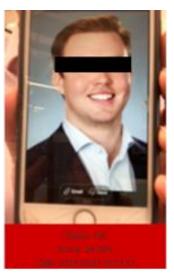












- Heather and unauthorized users are locked out and unable to access
- Company B signs up for CoStar subscription



Case Study 2: Technology + Theft Team

Legit CoStar credentials are issued to Lawyer V. at the V. Law Firm

- 1. Lawyer's account triggers a suspicious mobile phone number alert
- 2. SMS code for Lawyer's account is being sent to mobile phone associated with Tim G. of G & Co.



Lawyer V's Security Mode is Elevated to Facial

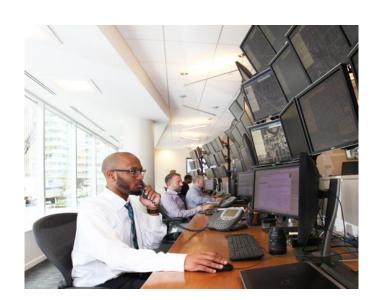
Tim G attempts to access Lawyer V's account (in a disguise)

Tim G's identity confirmed through public sources



G & Co. brokerage signs up for CoStar









CoStar Litigates When Necessary

Recent judgments in CoStar's favor include damages up to \$14,000/image and future infringement payments of between \$10,000 and \$50,000 per image per day.

- CoStar v. RealMassive (W.D. Tex. 2015)
- CoStar v. ApartmentHunters (C.D. Cal. 2015)
- CoStar v. RE BackOffice (W.D. Pa. 2017)
- CoStar v. Sandbox (D.N.J. 2019)



Case Study 3: Litigation Against Xceligent

- Xceligent, based in Kansas City, was one of CoStar's largest direct competitors
- Like CoStar, Xceligent offered a subscription database and a CRE marketplace



Xceligent's ultimate majority owner was a publicly traded company in London

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The Genesis: A Whistleblower



- Theft Team swings into action
 - Traffic analysis / IP log review = The Philippines
 - Public information searches / LinkedIn = Xceligent
 - Competitor website review ...

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CoStar Built a Record of Xceligent's Theft

~9,000

COSTAR COPYRIGHTED PHOTOS

found in preliminary review of **Xceligent's public website**

3.8 million

PAGE VIEWS on CoStar's Websites

800,000+

PROPERTIES Accessed on CoStar's Websites

10+ million

HITS to CoStar's Websites

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The Record Showed Notice and Sustained Improper Access

Access Denied

You are in breach of the binding LoopNet Terms and are blocked from accessing LoopNet. By continuing to access LoopNet or accessing after the block has expired, you are reaffirming your agreement to the LoopNet Terms. Users who do not comply with these Terms are not authorized to access LoopNet.

600+

times notified that they were in breach of LoopNet's terms and what they were doing was ILLEGAL

45,000+

new requests for information after receiving notice of their breach

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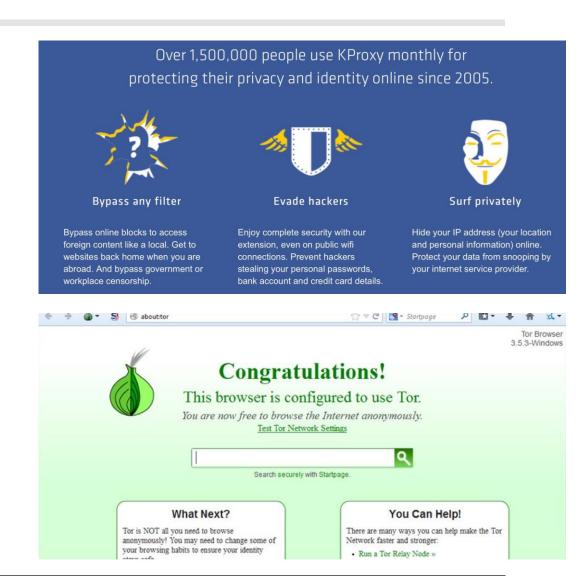
How Did Xceligent Try to Cover Its Tracks? By Outsourcing the Theft



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And Seeking to Circumvent CoStar's Digital Security

- Xceligent and its agents in the Philippines and India circumvented CoStar's blocking software using:
 - TOR browsers
 - Proxy servers
 - VPNs
 - IP address rotation



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Legal Goals Checklist

- Goal #1: Protect the IP. Prevent future infringement and further dissemination
 of CoStar content.
- Goal #2: Protect the Evidence. Build a strong case despite circumvention of security, potential destruction of evidence, and fake or non-existent record keeping by the adversaries.
- Goal #3: Hold the Violators Accountable. Hold Xceligent and its foreign contractors accountable.

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Ex Parte Civil Seizure Orders

- Although uncommon in the U.S., many countries permit plaintiffs to apply for ex parte civil seizure orders to protect evidence.
- Generally requires an evidentiary hearing without notice to adversary.
- Legal standard is high, but if met this is an extremely effective tool at preserving evidence of infringement.

REPUBLIC OF THE PHILIPPINES REGIONAL TRIAL COURT NATIONAL CAPITAL JUDICIAL REGION BRANCH 159 PASIG CITY

COSTAR GROUP, INC., COSTAR REALTY INFORMATION, INC., and LOOPNET, INC.

Applicants,

- versus -

Writ of Search and Seizure No. 2016-57-PSG

AVION BPO CORPORATION AND ITS DIRECTORS, OFFICERS, EMPLOYEES AND REPRESENTATIVES.

Respondents.

ORDER

In today's hearing on the Application for Writs of Search and Seizure filed by applicants COSTAR GROUP, INC., COSTAR REALTY INFORMATION, INC., and LOOPNET, INC., the applicants' representative Mr. Curtis Ricketts and his counsel from the ACCRA Law Office, namely Attys. Patricia Ann Prodigalidad, Jose Martin Tensuan, Victor De Leon, Jose Eduardo T. Genilo and Catherine Anne L. Dino and the applicants' witnesses Attys. Bernard Joseph V. Tumaru and Harry Gwynn Omar M. Fernan are present in Court.

After the conduct of probing an applicants' representative and his wi affidavits and annexes to the application probable cause to issue the Writs of Section 216 (c) of Republic Act No. Act No. 10372. Accordingly, let Writs for immediate implementation at res 1 Building, A. Castro Street, Barangay Unit C, Ground Floor, ADLS Building and (c) Jomel 3 Corporate Building Acosta Street corner Domingo Sam Ilocos Norte, Philippines.

SO ORDERED.

Given in open Court this 7th day of December, 2016 in Pasig

ELMA M. RAFALLO-LINGAN Presiding Judge

Three Lawsuits, Three Countries



December 6, 2016

File for *ex parte* civil seizure against Xceligent agent in Manila

December 7, 2016

Ex parte civil seizure order granted in Manila

December 12, 2016

7:35PM Eastern

Sheriff in Laoag City and CoStar team begin seizure







December 12, 2016 10:35PM Eastern

Complaint filed against Xceligent in W.D. Mo.

December 7, 2016

File for *ex parte* civil seizure against Xceligent agent in Mumbai

December 9, 2016

Ex parte civil seizure order granted in Mumbai

December 12, 2016 9:00AM Eastern

Seizure begins in Mumbai



To be successful, the timing had to work just right.

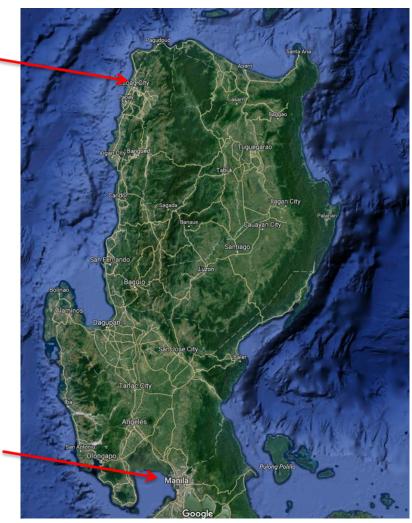
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Executing the Seizure Order in The Philippines

2 planes.

4 trucks.

 Large team: court commissioners, sheriffs, lawyers, forensic experts, corporate rep, security personnel.



Manila-

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Laoag City

Evidence Seized in The Philippines

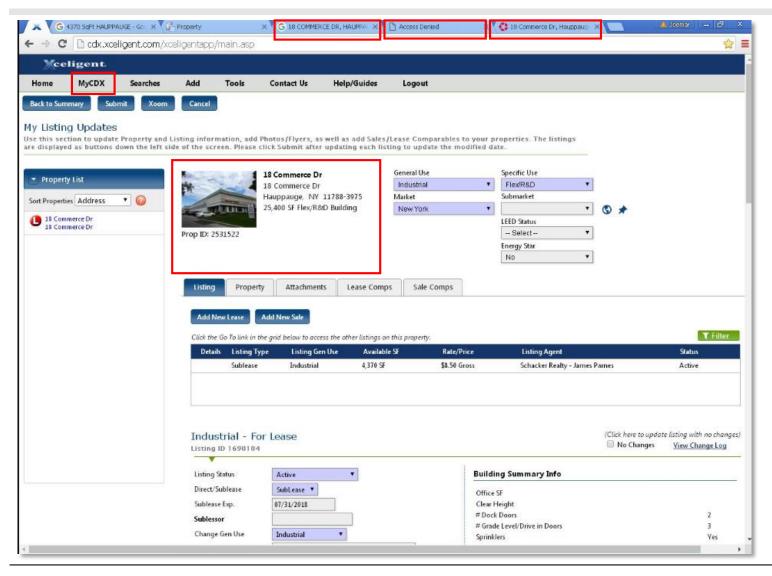
- 262 computers.
- 34 terabytes of data.
- 6 million documents.
- 1.8 million images.



The Seized Evidence Was Devastating

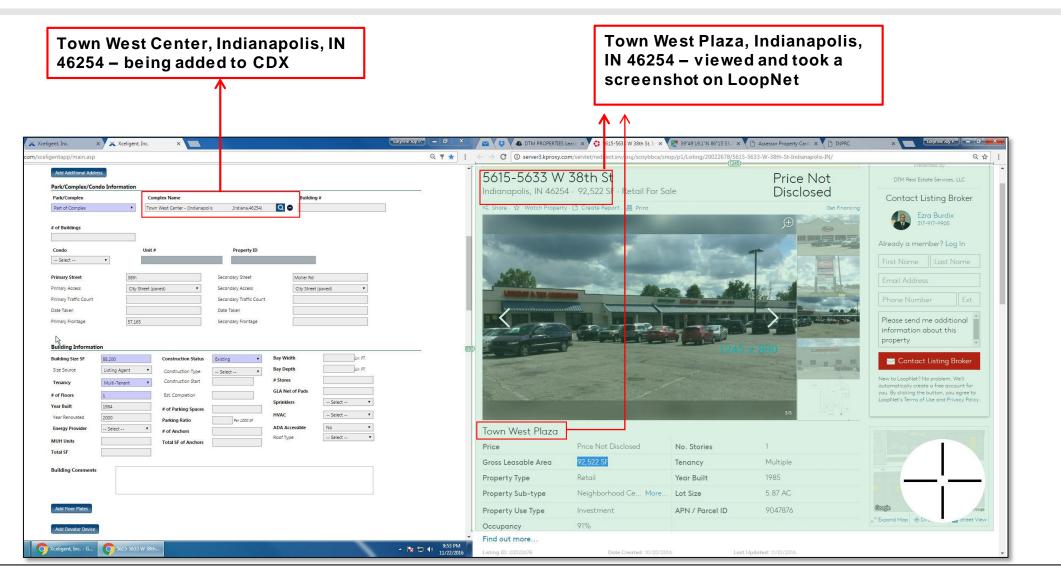
- Screenshots of Avion employees in the act of circumventing CoStar security and copying content from CoStar websites.
- Skype logs documenting Xceligent's instructions to Avion on how to circumvent CoStar's digital security.
- E-mails from Xceligent managers directing foreign researchers to steal CoStar content.
- Significant evidence of other wrongdoing.

Screenshots Show the Xceligent M.O.: Copy from CoStar



- Open Xceligent's backend system
- Google address using the term "LoopNet"
- Receive Access Denied message
- Access LoopNet through other methods, KProxy
- Update Xceligent System with CoStar content

Xceligent Researchers Caught in the Act



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Chat Logs Show Xceligent Managers Directing the Circumvention of CoStar Security

"Guys you can use TOR browser to access Loop[N]et..."

Xceligent's Leslie Houston to Avion

"Good Morning [sir,] I believe that Brent [Hansen, an Xceligent manager] sent you sir an email regarding a **software that shall be used by a couple of our agents in accessing** [L]oop[N]et. . . . If you have the copy sir if it would be possible to forward it to the ITs. Thank you sir and have a great morning."

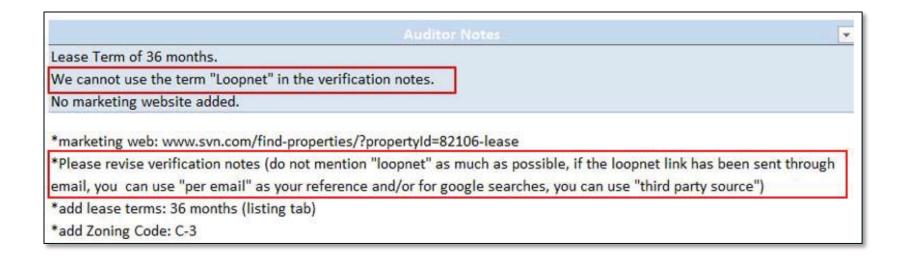


- Avion to Xceligent's Leslie Houston

Xceligent Faked Records to Hide Its Copying of Data From LoopNet

Auditor Notes

When copying listing notes from Loopnet, please rephrase it.



Xceligent Cropped Out the CoStar Watermark





Example of image editing process: Cropping Tool







And Even Replaced CoStar's Watermark with Its Own





CoStar logo to the right of the tree.







The image is cropped precisely to exclude only the original logo. CommercialSearch logo placed to the left of the tree.

The Seized Evidence Led to a Breakthrough

 Evidence led to U.S.-based affiliate of Indian contractor (MaxVal) known as RE BackOffice, Inc. ("REBO").



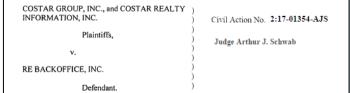
- CoStar subpoenaed REBO for documents and took a third-party deposition in which it admitted misappropriating CoStar's IP.
- Based on these admissions CoStar filed suit against REBO.

Xceligent's Contractor Stipulated to Judgment in Federal Court

"[A]t Xceligent's direction, the REBO/MaxVal operations team . . . circumvent[ed] CoStar's security and thereby hack[ed] into CoStar's sites in order to populate the Xceligent databases."

Case 2:17-cv-01354-AJS Document 6 Filed 10/20/17 Page 1 of 16

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF PENNSYLVANIA



JOINT STIPULATION FOR ENTRY OF IPROPOSED JUDGMENT AND PERMANENT INJUNCTION

Plaintiff's CoStar Group, Inc., and CoStar Realty Information, Inc. (collectively "CoStar"), and Defendant RE BackOffice, Inc. ("REBO"), hereby stipulate to the entry of the [Proposed] Judgment and Permanent Injunction attached as Exhibit A. REBO hereby stipulates to the following facts:

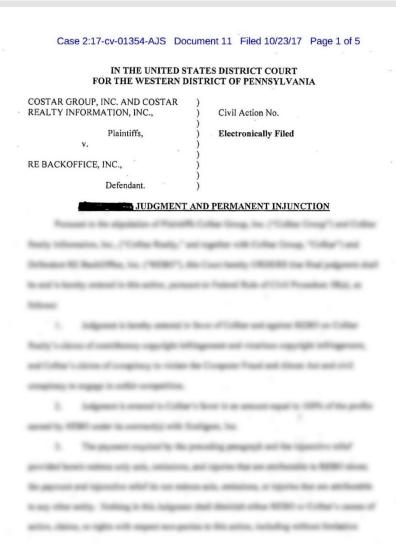
- REBO provides outsourcing services to the commercial real estate industry. One
 of its functions is to provide commercial real estate property research.
- CoStar is a leading provider of commercial real estate data and photographs. It
 provides commercial real estate information and listing products including CoStar's subscription
 database, LoopNet.com, Showcase.com, and Cityfeet.com.
- Xceligent, Inc. ("Xceligent") is a CoStar competitor. Xceligent contracted with REBO to conduct commercial real estate research on its behalf. REBO currently has an oral agreement with Xceligent.
- REBO's operations for the Xceligent account are handled by its affiliate and agent MaxVal Technologies, Pvt., Ltd. ("MaxVal") in India. MaxVal takes direction directly from Xceligent, or from Xceligent but via REBO.





Judgment Was Entered for Conspiring with Xceligent

Holding: REBO infringed CoStar's copyrights and conspired with X to violate the CFAA and engage in unfair competition by copying CoStar content and populating X's database.



The Very Next Day Xceligent's Founder and CEO Was Fired

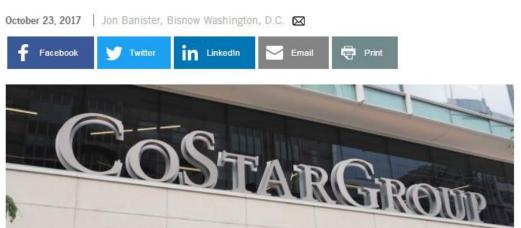
October 23, 2017













Xceligent's Bankruptcy

After filing counterclaims against CoStar and vowing to fight back, Xceligent declared bankruptcy after its parent company wrote down its investment to zero.

THE WALL STREET JOURNAL.





BUSINESS

Property Data Firm Xceligent Files for Chapter 7 Protection

Move to liquidate comes after talks with CoStar Group to settle litigation over alleged data theft collapse

After Xceligent bites the dust, CoStar announces Kansas City deal

KC-based data company declared bankruptcy in December



National

Xceligent Shuts Down Operations, Files For Chapter 7 Liquidation

December 14, 2017 | Jon Banister and Ethan Rothstein

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Practice Pointers from the Xceligent Case

- Institute Protections With One Eye on Litigation
- Take Time to Build Your Record
- Evidence Can Be Seized and Preserved Before It Goes Missing
- Wrongdoers Can be Held Accountable—Across the Globe

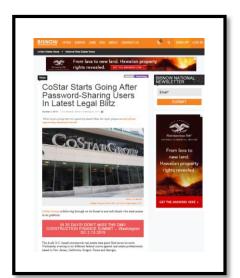
Case Study 4: Database-Fraud Litigation



Daily Dicta: Williams & Connolly Launches Litigation Blitzkrieg for CoStar (Pity the Defendants)



CoStar files lawsuits from D.C. to California alleging widespread unauthorized use



CoStar Starts Going After Password-Sharing Users In Latest Legal Blitz

Seven Lawsuits, Across the Country, Filed on the Same Day

- First Wave:
 - Three cases in California, and one each in Oregon, New Jersey, Washington, DC, and Georgia
- Against individuals and companies, alleged to have:
 - Fraudulently accessed CoStar's database
 - Downloaded thousands of pieces of data
 - Infringed CoStar's copyrights
- Rejected CoStar's reasonable efforts to end the theft without litigation



Legal Goals Checklist

- Goal #1: Protect the IP. Stop fraudulent access and prevent future misconduct.
- Goal #2: Hold Fraudsters Accountable. Recover from the individuals and entities that misused CoStar.
- Goal #3: Educate the Market. Demonstrate CoStar's commitment to protecting its IP and illustrate the significant damages that come with accessing CoStar without proper credentials.
- Goal #4: Develop Precedent. Achieve results that can be used in future cases.

Developing the Evidence

- IP Addresses. Access to CoStar using subscriber credentials from an IP address affiliated with a non-subscriber
- Device Affiliations. Access to CoStar using subscriber credentials from a device (e.g., laptop, cellphone) affiliated with a non-subscriber
- Device Names. Subscriber registers a device with a name related to the nonsubscriber
- Other evidence. Search histories, calls to CoStar

Developing the Evidence—Choi & Sandbox

Initial Findings

- Credentials of two CoStar subscribers used to access CoStar's database from IP addresses and devices affiliated with a non-subscriber (Choi)
- Search histories of CoStar subscribers included a folder labeled with the initials of Choi
- Dueling logins: Access credentials would be used to attempt logins from different IP addresses in different geographic locations at the same time

Further Findings

 Review of records indicate that Choi created property reports containing CoStarcopyrighted photographs

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Choi & Sandbox—A Chronology

Summer 2018

- CoStar detects unauthorized access and writes to Choi
- No resolution, as Choi claims it is an "accident"

Summer-Fall 2018

CoStar develops evidence of sustained unauthorized access and infringement

October 3, 2018

CoStar files suit against Choi and his company, Sandbox Real Estate

November 13 & 16, 2018

Choi and Sandbox served

January 4, 2019

Stipulated judgment and permanent injunction entered; no discovery needed

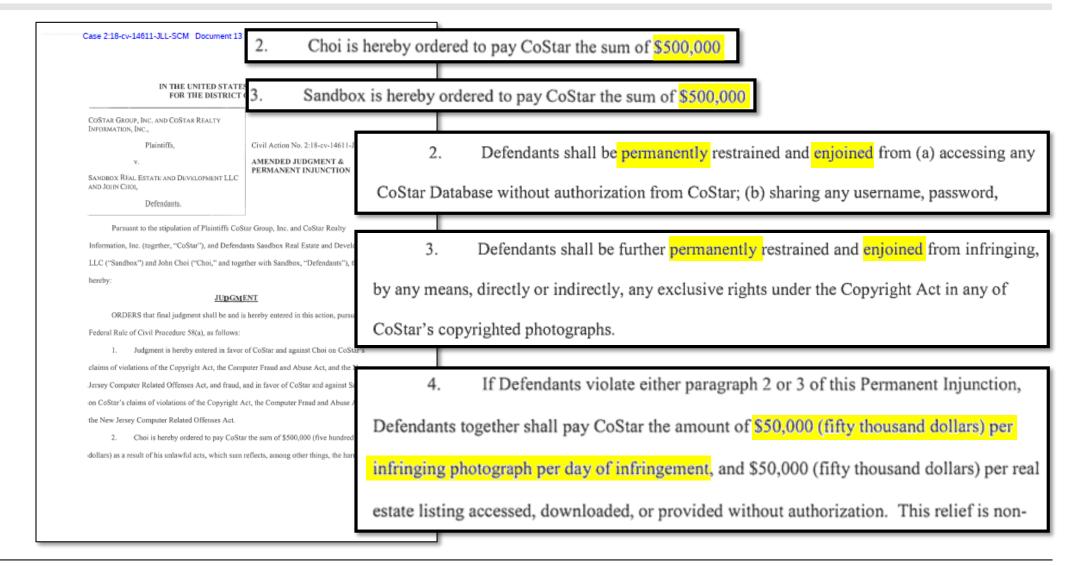
The Result: A Stipulated Judgment & Permanent Injunction

Case 2:18-cv-14611-JLL-SCM Document 11 Filed 01/04/19 Page 1 of 10 PageID: 147 IN THE UNITED STATES DISTRICT COURT COSTAR GROUP, INC. AND COSTAR REALTY INFORMATION, INC., Civil Action No. Plaintiffs. 2:18-cv-14611-JLL-SCM SANDBOX REAL ESTATE AND DEVELOPMENT LLC AND JOINT STIPULATION FOR JUDGMENT & PERMANENT Defendants. INJUNCTION Plaintiffs CoStar Group, Inc. and CoStar Realty Information, Inc. (together, "CoStar") and Defendants Sandbox Real Estate and Development LLC ("Sandbox Real Estate") and John Choi ("Choi," and together with Sandbox, "Defendants"), hereby stipulate to the entry of the [Proposed] Judgment & Permanent Injunction attached as Exhibit A. Defendants hereby stipulate to the following facts: Sandbox is a commercial real estate agency located in Edgewater, New Jersey. Choi is the President of Sandbox. 2. CoStar is a leading provider of commercial real estate data and photographs. It provides commercial real estate information and listing products, including CoStar's subscription database. The database was developed, and is maintained, at a cost of billions of dollars. 3. CoStar's subscription database is licensed to subscribers for a significant monthly fee on strict terms that limit access. Subscribers pay for, and designate, specific individuals who are authorized to access the database and are issued non-transferable credentials, known as Passcodes, in order to do so.

"Defendants acknowledge that their actions constitute a serious violation of CoStar's Terms of Use" and that Choi's actions violate the Copyright Act, Computer Fraud and Abuse Act, the New Jersey Computer Related Offenses Act, and constitute fraud, and that Sandbox aided and abetted Choi's statutory violations."

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The Judgment & Permanent Injunction



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Practice Pointers from Database-Fraud Cases

- Develop and use a continuum of responses:
 - Technological defenses—IP blacklists and security modes
 - Confront apparent lone wolves and seek out-of-court resolution when the damage is not widespread
 - If a syndicate of bad actors, identify weaknesses in the group, but, if necessary, pursue simultaneously
 - Do not be afraid to litigate when appropriate
- Choose litigation candidates based on scope of misconduct and effect on company's goals
- If litigating, develop complete record before suit

Conclusion

• Questions?

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Jaye S. Campbell



Deputy General Counsel – Head of Litigation **CoStar Group** jscampbell@costar.com 202-623-5257 Jaye is Deputy General Counsel and Head of Litigation for CoStar Group, an international provider of commercial real estate information, marketplaces, and analytics. Her primary responsibility is protecting, through legal and technological means, CoStar's content, which includes a comprehensive subscription database of property photos and information and the content on dozens of websites in the U.S., Canada and Europe, including LoopNet.com, Apartments.com, and LandsofAmerica.com. She also has primary responsibility for disputes – big or small – involving CoStar, and leads antitrust matters, including interfacing with the FTC in pre-merger review and other contexts.

Originally from Texas, Jaye came to Washington, DC to attend college and never left. Her first client-service job was at Clyde's in Georgetown, where she was a bartender.

Prior to joining CoStar, Jaye was an associate in the intellectual property group of Drinker Biddle & Reath LLP focusing on trademark and information technology matters.

Nicholas J. Boyle



Partner
Williams & Connolly
nboyle@wc.com
202-434-5343

Nick Boyle handles a wide variety of litigation, with an emphasis on complex civil cases with an international component. His experience spans federal and state courts around the United States; various arbitral fora—including AAA/ICDR, FINRA, JAMS, and ad hoc arbitrations; and, acting as coordinating counsel, courts around the world. In 2018 Nick was recognized by *The National Law Journal* as a "Trailblazer" for his pioneering legal strategy in global litigation over data theft by a client's competitor. In 2016, *Law360* featured Nick in its inaugural Trial Pros series, a Q&A highlighting his career as a trial attorney. Nick was also recognized as a D.C. "Super Lawyer" in 2017 and 2018. Nick co-chairs the firm's Unfair Competition and Trade Secrets practice group.

Nick has represented investment banks, a global private equity fund, interdealer brokers, movie studios, technology companies, and the leading commercial real estate data provider. His practice encompasses commercial disputes; copyright and trade secrets cases, particularly involving the Internet; securities actions, including several RMBS cases; employment disputes in the financial sector; and defense of antitrust and RICO claims. His client representations take him to New York and London on a regular basis, and have also involved depositions and other work in multiple other locations from Australia to Estonia.

David Randall J. Riskin



Partner
Williams & Connolly
driskin@wc.com
202-434-5789

An experienced commercial litigator at both the trial and appellate level, David Riskin manages complex matters in state and federal courts, with a particular focus on defending professional liability and conflict-of-interests claims against law firms. He engages all aspects of a matter by developing case themes, building expert strategies, preparing and defending key witnesses, and designing early-stage litigation strategies resulting in pre-trial dismissals and favorable settlements.

David's broader commercial litigation experience has spanned a variety of industries, including financial services and securities, commercial real estate, medical devices, aerospace, healthcare, and technology. And he has represented individuals in civil, criminal, and governmental proceedings, both domestically and abroad.

WILLIAMS & CONNOLLY LLP*

725 Twelfth Street NW
Washington, DC 20005
T 202-434-5000 | F 202-434-5029
www.wc.com