Making Login Easier While

Cracking Down on Password Abuse

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Synacor Customer Context
MVPD/ISPs, vMVPDs & OTTs
**SYNACOR CUSTOMER CONTEXT**

70+ Service Providers, 45+ TV Programmer Integrations across 100+ Networks

- **Synacor Identity Management Platform** hardened over 8 years of investment and enhancement
- Running identity services for **tens of millions of subscribers** with **1000s of sign ins per second**
  - Other providers only hand over a solution. They do not host and run it like Synacor.
- **Professional Services global delivery capabilities** and experience working with dozens of the world’s largest Service Providers and Enterprises
- **Experience delivering world class SLAs** for Service Providers with a few thousand users to 40M

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- **500+ Single Sign On Solutions**
- **90+ Million TV Subscriber Accounts Reach with Authentication**
- **13 Million Unique Cloud ID End Users Login Per Month**
- **20 Million Portal/Start Logins Per Month**
- **2.8+ Trillion Email Logins Per Month (Synacor-Hosted)**
What Problems are we Addressing?
WHAT PROBLEMS ARE WE ADDRESSING?

- Service and Content Providers are concerned about:
  - Password sharing
  - Reliability
  - Security
  - Cost

- TV Everywhere usage is not as high as expected
- Users often find login to be difficult
- Users may still not fully understand TVE
PROBLEMS WE ARE ADDRESSING
TVE USAGE LOWER THAN EXPECTED

Age 18-64: MVPD SUBS
TVE USE

Past 6 month users
- Jul-15: 52%
- Jan-16: 46%
- Aug'16 - Jan'17: 48%
- Feb'17 - Oct'17: 64%
- June'18 - Aug'18: 56%

Use once a month
- Jul-15: 43%
- Jan-16: 37%
- Aug'16 - Jan'17: 42%
- Feb'17 - Oct'17: 56%
- June'18 - Aug'18: 51%

Heavy TVE Users
- Jul-15: 23%
- Jan-16: 16%
- Aug'16 - Jan'17: 24%
- Feb'17 - Oct'17: 32%
- June'18 - Aug'18: 30%

Heavy TVE users - Uses TVE once a day or several times a week
- Green: Significantly higher than previous wave
- Orange: Significantly lower than previous wave

Source: CTAM TVE Tracking Study
PROBLEMS WE ARE ADDRESSING
TVE USAGE LOWER THAN EXPECTED

In your last TVE viewing attempt...

<table>
<thead>
<tr>
<th>Did you end up watching via TVE?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>68%</td>
<td>32%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why not? (among those who did not watch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changed mind about watching</td>
</tr>
<tr>
<td>Show or episode I was looking for wasn't available</td>
</tr>
<tr>
<td>Process was too difficult or time-consuming</td>
</tr>
<tr>
<td>Problem with viewing show wouldn't start playing or crashed</td>
</tr>
<tr>
<td>Didn't know how to find the show</td>
</tr>
<tr>
<td>Was asked to sign in but didn't have username and password</td>
</tr>
<tr>
<td>Didn't accept username and password</td>
</tr>
<tr>
<td>Any other reason</td>
</tr>
</tbody>
</table>

Source: CTAM TVE Tracking Study
### PROBLEMS WE ARE ADDRESSING
### PASSWORD SHARING

#### WAYS OF SHARING LOGIN INFORMATION WITH OTHERS

**TVE USERS, MVPD SUBS (18-64)**

<table>
<thead>
<tr>
<th>Gave login information to...</th>
<th>18-34</th>
<th>35-49</th>
<th>50-64</th>
</tr>
</thead>
<tbody>
<tr>
<td>A family member living somewhere else temporarily</td>
<td>17%</td>
<td>30%</td>
<td>17%</td>
</tr>
<tr>
<td>A family member living somewhere else permanently</td>
<td>16%</td>
<td>31%</td>
<td>16%</td>
</tr>
<tr>
<td>A friend of a family member</td>
<td>15%</td>
<td>28%</td>
<td>16%</td>
</tr>
<tr>
<td>A friend</td>
<td>12%</td>
<td>28%</td>
<td>14%</td>
</tr>
</tbody>
</table>

| Household member gave login information to a friend   | 12%   | 29%   | 13%   | 2%    |

↑ Significantly higher than total

Q9A: Have you ever given your provider login information to any of the following people, so they can use that account to watch TV shows, movies, or sports events online, from TV network sites or apps? Q9B: Has any member of your household done this for a friend?

Source: CTAM TVE Tracking Study
## PROBLEMS WE ARE ADDRESSING

### PASSWORD SHARING

<table>
<thead>
<tr>
<th>Used login information from ...</th>
<th>18-34</th>
<th>35-49</th>
<th>50-64</th>
</tr>
</thead>
<tbody>
<tr>
<td>A family member living somewhere else permanently</td>
<td>12%</td>
<td>23%</td>
<td>12%</td>
</tr>
<tr>
<td>A friend</td>
<td>10%</td>
<td>23%</td>
<td>12%</td>
</tr>
<tr>
<td>A friend of a family member</td>
<td>9%</td>
<td>18%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: CTAM TVE Tracking Study
## Problems We Are Addressing

**Password Sharing**

### Frequency of Using Someone Else’s Login Information

<table>
<thead>
<tr>
<th>MVPD Subs (18-64) Who Have Used Someone’s Credentials</th>
<th>18-34</th>
<th>35-49</th>
<th>50-64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>14%</td>
<td>19%</td>
<td>2%</td>
</tr>
<tr>
<td>A few times a week</td>
<td>29%</td>
<td>30%</td>
<td>21%</td>
</tr>
<tr>
<td>Every week</td>
<td>14%</td>
<td>15%</td>
<td>8%</td>
</tr>
<tr>
<td>A few times a month</td>
<td>8%</td>
<td>7%</td>
<td>14%</td>
</tr>
<tr>
<td>Once a month or less</td>
<td>35%</td>
<td>30%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: CTAM TVE Tracking Study
Addressing the Problems: Easier Login while Preventing Password Sharing
It’s All About Balance

64% of current TVE users cite that: “TVE is harder to use than other online sources”

53% of current users say that they: “prefer sources that don’t ask for login”

The TV industry’s losses from password sharing are expected to rise to $9.9 billion by 2021, according to Bloomberg and research firm Parks Associates.

Password sharing is widespread: One-third of all viewers 18-64 (31%) have used the login credentials of someone outside their home to access TV shows online.

Source: CTAM TVE Tracking Study
What’s Working for Synacor Cloud ID Customers?

STREAMING MEDIA EAST 2019
Synacor’s Forever Login™ …

- Recognizes a user’s trusted devices and allows entry to TV Everywhere content without a login screen
- Time To Live does not need to expire for the user!
- Pairs perfectly with Device Management which helps curb password sharing and fraud
- It’s the best of both worlds…protecting Service Providers and Customers from password abuse AND making the login experience easier on trusted devices!
Synacor’s Cloud ID
Device Management Feature…

- Gives users and Service Providers visibility and management of all customer devices
- Gives Service Providers an API that allows them to remotely log out devices when password oversharing occurs

Additionally, Synacor could introduce another login field (Secret Question and Answer, for example) when password sharing is suspected. It’s another way to ensure login is from a legitimate source.
Synacor’s Cloud ID Device Management…

- Allows users to log out unrecognized devices, helping protect them from hackers
- Allows users to name devices for quick recognition
- Shows the history of activity for each device
  - Do I really want Ethan watching Nick Jr at 4am?
- Shows the device activity by location
  - Was that really Ethan? I don’t live in St. Louis…

This powerful new feature opens the door to using the device as the password in the future, protecting both the user and the Service Provider in a new way…
Meet Your New Password: Your Device

Roadmap - Recognizing Compromised Accounts and Password Oversharing with Machine Learning

Learns a user’s profile based on patterns:
- Device Information
- Geolocation
- Network used
- What is being accessed
- When it's being accessed

Real-time scoring of the user profile
Variable application of business rules based on user’s profile
NO LOGIN NEEDED - HOME BASED AUTHENTICATION

Home-Based / Auto Authentication seamlessly authorizes MVPD users, bypassing password entry to view entitled content, when on their MVPD-connected home network. Synacor cloud-based authentication simplifies ISP-side IP address account look-up.

Increase Engagement & Lowers Abandonment Rate
- Increased TV Everywhere engagement by 20%
- Dropped abandonment rate down to ~10%, from ~50%
- Reached 70% of MVPDs Olympic TV Everywhere audience
- Reduced CSR call volume for TV Everywhere escalations

Easy Back-End Integration & TV Programmer-Ready
- Home-Based Authentication in the cloud
- Simple IP Address Look-Up API Specification
- Professional Service Systems Integration Team

The user simply sees a welcome message and a continue button instead of the traditional username and password login boxes. One click and they’re in!
Apple Single Sign On

To deliver the best single sign on user experience for our customer’s subscribers on Apple devices, Synacor helped create end-to-end TV Everywhere support for Apple SSO.

• New Video Subscriber Account Login for MSO inside Apple SSO
• Apple SSO-Integrated Cloud ID APIs: AuthN, AutoAuth, Metadata, Channel List
• Cloud ID iOS & tv OS SDK with Apple SSO APIs for TVE & MSO Apps
• Secured with FairPlay
• Plus, the Service Provider gets a branded page in iTunes and on Apple TV, telling the customer about more TVE Apps

No longer does a customer need to log in and activate over and over while installing TVE apps. Activate and login once- thanks to Synacor’s partnership with Apple SSO- that’s it! Each subsequent download skips the activation and login stage, saving the customer hours of time. Plus it works across all Apple devices!
Apple SSO sign-ins per day in 2018

Nearly 300k daily Apple SSO sign ins from Synacor clients
One-Click Sign-In with Cloud ID Social Login

Cloud ID Social Login gives subscribers a simpler login path by allowing them to link MVPD or OTT entitlements with their preferred social network account.

Social Login boosts TV Everywhere engagement by lowering login friction across multiple devices, a mobile complement to home-based authentication.
QR CODES AND DEVICE ACTIVATION

Activate a Device

Add more devices to your account quickly by scanning a QR code or entering a PIN.

Get Started
Cancel
QR CODES AND DEVICE ACTIVATION

1. Scan QR Code
2. Enter PIN
3. Touch ID for "Provider App"
4. Enter Password
5. Your device has been added to your account.
QR CODES AND DEVICE ACTIVATION

Activate a Device
Add more devices to your account quickly by scanning a QR code or entering a PIN.

Get Started
Cancel

Device Activation
Follow the instructions on your device, then enter the PIN code above from your app to activate your device.

Use QR Instead
Cancel
QR CODES AND DEVICE ACTIVATION

1. Enter PIN
2. Scan QR Code
3. Touch ID for "Provider App"
4. Enter Password
5. Done!

Your device has been added to your account.
LIFECYCLE MANAGEMENT
USER FRIENDLY SELF-SERVICE TOOLS

Password Assistance

Please provide your username to have a password reset link sent to your registered email address.

Username

I'm not a robot

Password Assistance

If the email address you provided was correct, you will receive an email with a link. Open this link within 24 hours to set a new password. If you do not see this email in your inbox, check the junk folder.

Continue

Account recovery

Complete your security questions for username or password recovery. All three questions and answers must be provided.

Primary Contact Email

Lengelke@synacor.com

Secret question

Best Job Ever?

Secret answer

Synacor!

Secret question

Favorite Coworker?

Secret answer

Not Telling

Secret question

Hometown?

Secret answer

Xenia

SAVE
LIFECYCLE MANAGEMENT
USER FRIENDLY SELF-SERVICE TOOLS

Service Provider

Home

Users (3 of 3)

- lisae
- ryane

ethane

Personal information
This screen allows you to maintain your personal information.

User name
ethane

First name *
Ethan

Last name *
Engelke

Admin

REMOVE USER  SAVE
TO LEARN MORE, CONTACT SALES@SYNACOR.COM

We are a Media and Software Company • NASDAQ: SYNC • 400+ worldwide employees • 7 data centers • White-label tech development, multiplatform services, and revenue partner. • Empowering our global customers to deliver media to their millions of consumers worldwide.

OUR SOLUTIONS

Advanced Portals & Advertising
Unified TV Search & Discovery
Email/Collaboration
Cloud ID Identity Management

SOME OF OUR KEY CLIENTS

at&t • CenturyLink • dish • PAC 12 • HBO • Google Fiber • windstream • cheddar • TDS • Comcast • Toshiba • YouTube TV • suddenlink • TELUS • PlayStation Vue • MIDCO