Shaping the Future of Web Payments

Jeff Jaffe
W3C CEO
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<th>American Express</th>
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<th>Barclays</th>
<th>Bloomberg</th>
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<th>Canton Consulting</th>
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<td>Verizon</td>
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<td>Wells Fargo</td>
<td>Worldpay</td>
<td>Web Payments IG participants in bold</td>
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Notes as we start

- Many thanks to our host Bloomberg!
- Please no photos
- Please do not attribute statements to individuals (e.g., in social media)
- W3C plans to post a public summary of the proceedings on its Web site after the event. We will not not attribute statements to anybody, but we do plan to list the participating organizations.
Goals for Today

- Share W3C progress around Web payments
- Discuss priorities for standardization
Agenda

- Introduction to W3C and Web Payments (Jeff Jaffe)
- Moderated Discussion (with Panel)
- Open discussion over cocktails

After Roundtable, Ripple welcomes participants to Le Cirque for cocktails 18:30-20:30
W3C Background
Who is W3C

- Standards body for Web technology
- **Created in 1994** by Web inventor Tim Berners-Lee
- Full-time staff of ~80 people
- ~400 **Members**, community of thousands
- **Liaisons** to drive interoperability; including with ISO TC 68 (TG1 and WG10)
Open Web Platform

A single video, song, book, game, or other type of content is available worldwide using:

- TVS and game consoles
- Car navigation systems
- Digital cameras
- Smartphones and tablets
- Projectors

Graphic: NTT
Application Foundations

- **Security & Privacy**: Identity, crypto API, multi-factor authentication
- **Usability & Accessibility**: Content and software accessibility, internationalization
- **Performance & Tuning**: Profiling, enhancements, responsive design
- **Device Interaction**: Sensors, orientation, vibration, touch, bluetooth, etc.
- **Core Web Design & Development**: HTML, style, layout, graphics, animations, typography
- **Media & Real-Time Communications**: WebRTC, streaming media, second screen
- **Application Lifecycle**: Offline, push, geofencing, sync
Online Payments
Web Payments Landscape

- High-profile stories of theft of sensitive user information
- E-Commerce on mobile is difficult (e.g., form usability)
- Mobile wallet proliferation but limited user acceptance
- E-Commerce interfaces different on every site
- Merchants interested in "commerce" not just payments (e.g., loyalty, coupons, buying patterns, search, social)
- Web app developers looking for ways to monetize work
E-Commerce Growth Decrease Projected

B2C Ecommerce Sales Worldwide, 2013-2018

trillions and % change

2013: $1.233, 19.0%
2014: $1.471, 19.3%
2015: $1.700, 15.6%
2016: $1.922, 13.1%
2017: $2.143, 11.5%
2018: $2.356, 9.9%

Note: CAGR (2013-2018)=13.8%; includes products and services ordered and leisure and unmanaged business travel sales booked using the internet via any device, regardless of the method of payment or fulfillment.
Source: eMarketer, July 2014
According to the [Lexis Nexis] data, annual fraud costs reached $32 billion in 2014, a 38 percent increase over 2013,
— pymts.com, February 2015
Fragmentation Hindering Potential of Mobile Payments

Today’s mobile payment market is changing rapidly and is littered with incompatible choices and no clear winners, with diverse players locked in a high stakes battle for consumer relationships.

Payments in W3C
Web Payments Standards Landscape

- Many industry standards (e.g., from ISO, EMV, PCI, X9, IEEE, NIST)
- Interfaces between Web stack, applications, underlying payment systems not generally standardized
- No uniform access to payment services for Web devs (across Web pages, apps, in-store)
- Inadequate integration. Specifically, no standard APIs for wallet access, raising implementation costs for payment services providers; tokenization not part of the Web
W3C Web Payments Activity

- **Web Payments Interest Group** was **Launched in October 2014** to:
  - prioritize **use cases**
  - analyze requirements
  - develop roadmap for standards

- **Building on:**
  - WebCrypto launched in 2012; **WebCrypto API** now widely deployed
  - **XML Signature Syntax and Processing**
Interest Group Participation

- Co-Chairs from Bloomberg (Erik Anderson) and NACS (David Ezell)
- 93 individuals
- 42 organizations from different parts of industry:
  - Banks and Financial
  - Payment Service Providers
  - Mobile Operators
  - Merchants
  - Software providers
  - Hardware providers
Now is the Time for Web Payments Standards

Security and Privacy

Identity and Credentials

Payment Ecosystem Integration
Key Topics
Security and Privacy

*What we are hearing*

- Reduce fraud and data storage risks
- Increase consumer confidence and privacy

*Transition to standards*

- Improved authentication (crypto, multi-factor, hardware-based)
- Data protection and limits (zero-knowledge, tokenization)
Security and Privacy
next steps for work

  - Collaboration with FIDO Alliance
  - Trusted execution environment
- Web Payments Interest Group expanding requirements to deliver to these groups
- **Question**: Additional standards for digital signatures and key management on the Web?
Identity and Credentials

What we are hearing

- Spectrum of identity needs
- Ease of use by requiring less data entry (especially on mobile)

Transition to standards

- **Question**: Support for cryptographically provable and non-repudiable claims?
- More discussions on payments and related topics for potential Credentials Working Group.

Spectrum of identity needs

- Anonymous (cash-like)
- Returning customer
- Strong identity (KYC / AML)
Integration

What we are hearing

- Help people pay from applications
- Reduce fragmentation for access to digital wallets
- Ease of integration of new payment solutions
- Improve reuse of electronic receipts (e.g., accounting, tax preparation, etc.)

Transition to standards

- Formats for invoice, proof of payment, receipts
- Mechanisms for discovery and invocation of digital wallets
  - Draft charter
Anticipated Benefits

- **Security**
- **Volume** — ubiquitous Web with billions more people online by 2020
- **Customer satisfaction** — branded wallets that include Web activities such as social, search; harmonized user experience
- **Marketing** — loyalty programs, coupons, in-context payments, etc.
- **Increased sales** — reduction of cart abandonment with more payment options
- **Lower cost** — security, integration of payment services, compliance
Participation
Get Involved to Accelerate Progress

- Bring use cases and help prioritize standardization
- Help ensure compatibility with other industry standards
- Implement and test to ensure interoperability
Panel

- Erik Anderson, Bloomberg
- Laurent Castillo, Gemalto
- Evert Fekkes, Rabobank
- Adrian Hope-Bailie, Ripple Labs
- Claudia Swendseid, US Federal Reserve