

Mark Reay

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- Engineering leader with 17+ years of experience delivering high-impact platforms across accessibility, compliance, and supply chain security—driving vision, writing code, and building teams that scale.
- Principal-level architect and builder behind Accessibility Insights, One Compliance, and Microsoft's SBOM infrastructure—open-source, AI-integrated, and trusted at enterprise scale.
- Known for converting vision into velocity: leading 30+ engineers across time zones, mentoring new leaders, and shaping systems from the browser to the CI pipeline.
- Builder-first mindset: passionate about clean design, developer empathy, AI-assisted quality, and mentoring engineers to own their craft.

PROFESSIONAL EXPERIENCE

Microsoft Corporation – Redmond, WA

2007 – present

Responsible for architecture, design and development over many projects as a leader, manager, architect, and individual contributor.

Developer Division - One Engineering System (1ES)

2022 – 2025

In 2022, as **Group Software Engineering Manager** my engineering group moved back into Microsoft, and we began to work in new areas, leading as many as 30 engineers across North America, Prague, and India.

Web Compliance – we took over the web compliance for all compliance areas and built a new privacy scanner on the platform we build for accessibility scanning. We also took over the cookie compliance banner for all Microsoft and improved its scale.

Supply Chain Security – part of my team was assigned the task of addressing emerging security requirements around protecting our software supply chain. We maintain an open source SBOM generator and the infrastructure for managing SBOMs for all Microsoft software and enabling its use for security remediation.

One Compliance – the project I originally started when I joined Azure DevOps transitioned back to me. We developed a new continuous compliance system to make compliance less periodic and reactive and more a part of the day to day work of teams.

Accessibility Insights – while the accessibility team was smaller, we continued to innovate in new areas, such as linting rules for detecting accessibility issues in code, and new methods for using emerging artificial intelligence technologies to detect and even remediate issues automatically.

Outside of technical leadership, I also made other contributions to the organization.

University Recruiting and Early in Career – I led all efforts for college hiring for the One Engineering System and co-led these efforts across all DevDiv. I scheduled events, worked with new arrivals, and helped to develop programs for these people just starting their careers.

Engineering Leads Fundamentals – I led a multi-year effort to create specialized content to help engineering leads across 1ES handle those unique challenges that managers face in this particular discipline. Handling live site, time management, working effectively with product managers, balancing velocity, quality and scope, and just how to effectively manage the unusual tribe that software engineers are.

GitHub – One Engineering System

2018 – 2022

With the acquisition of **GitHub**, the accessibility tooling team I led was transferred to **GitHub** as part of the One Engineering System. At GitHub, we transitioned our tools into an open-source project. We released it in 2019 as **Accessibility Insights**. (<https://accessibilityinsights.io>).

Also, in 2019, all Accessibility Insights products were consolidated under me as a **Group Software Engineering Manager** for leading 17 engineers with 3 engineering leads. We expanded the tooling to include products for Windows, Android, and Azure DevOps pipeline. We also created a scanner to scan all Microsoft websites for accessibility issues.

Azure DevOps (as Visual Studio Team Services)

2015 – 2018

As **Principal Software Engineering Lead**, I transitioned away from advertising into the world of developer tools and engineering systems. As a part of Azure DevOps, then called Visual Studio Team Services, I led a team to create a new platform, the **One Compliance System**, for managing work items for addressing non-functional requirements necessary for compliance in domains including security, privacy and accessibility.

The accessibility focus grew when an accessibility tooling initiative with two product managers and one junior developer were transferred into my team. We soon staffed up this team to ten developers, and I transitioned the work item generator work away to focus 100% on the accessibility tooling, what would become my enduring passion for the next decade.

Bing Ads – AdStore and Campaign Platform Team

2015

As **Principal Software Engineer**, I continued my work to improve the performance of UCM and also design, implement, and release a data storage platform for persistence of user preferences and report definitions.

- Diagnosing and driving resolution of complex performance issues between the AdStore platform and the UCM team.
- Exploring several NoSQL data solutions both internal and external to Microsoft, developing proof-of-concept code and benchmarking performance.
- Defining a data model for semi-structured data to minimize further requirements for DB and MT development in reaction to changing UI requirements.

Bing Ads – Unified Customer Management (UCM)

2013 – 2015

As **Principal Architect**, I was responsible for identifying the technologies, establishing the architecture, and forging working agreements for the project. As the project was fully staffed, I led the development of the middle-tier and managed a 30 person engineering team as **Principal Development Manager**. As phase one of the project drew to a close, I worked more directly on technical issues as a **Principal Software Engineer**.

- Managing as many as 22 vendors and 9 FTE developers.
- Using agile processes, particularly short iterations and retrospectives.
- Establishing a culture of rigorous code reviews both one-on-one and in weekly team code review meetings.
- Maintaining near total code coverage (>95%) for the UCM middle-tier.
- Working with vendor team in India, including several on-site visits for training and oversight.
- Designing a custom in-process data pipeline to enable merging of many disparate data sources into a single middle-tier web response with minimal code changes for the addition of new fields.
- Using the technologies: C#, JavaScript, WCF, SQL Server, Azure

Microsoft Advertising – Frictionless Campaign Management (“Project Balboa”)

2012 – 2013

As **Senior Software Development Engineer**, I worked at the initiation of the project to establish the architecture, evaluate the team and begin the development process. As the project was staffed up, I transitioned and was eventually promoted to **Principal Development Lead** to lead three development teams.

- Managing as many as 23 vendors and 9 FTE developers.
- Driving the architecture of a \$21 million development effort.
- Using agile processes, particularly short iterations, retrospectives and velocity-based estimation.

- Leading the Core Services team, Common User Interface team, and Data Services team.
- Introducing the practice of JavaScript unit-testing to improve quality and reliability. Increased JavaScript code coverage from zero to 74%.
- Working with Microsoft IDC team and also vendor team in India, including several on-site visits for training and oversight.
- Working with external partners as development lead for the Programmatic Direct API which exposed the FCM system to API consumers. Wrote API documentation and proof of concept code in Java and PHP to assist partners. Met with other major media companies in an IAB standards effort for programmatic campaigns.
- Using the technologies: C#, JavaScript, WFC, SQL Server, Azure

Microsoft Advertising – Display Applications Architect

2010 – 2012

As **Senior Software Development Engineer**, I served as the architect for the applications for booking and tracking display advertising campaigns booked on Microsoft media properties, or tracked through Microsoft's Atlas Media Console.

- Establishing the long-range plan for Display Applications and working with other architects to publish and communicate the plan across the organization.
- Inventing "True Update Cost", the concept of scoring the costs of API operations to the total number of database entity changes. Establishing an hourly limit based on this true cost protected the back end pipelines from an explosion of updates that caused data replication delays.
- Designing and driving implementation of the Data Sync API to allow an service-based integration between large agencies and Atlas.
- Leading the Unified Media Planning effort, a prototype of total redesign of the campaign management user interface.
- Driving regular architectural reviews and working with individual team to solve issues in aligning to the long-range architecture.
- Managing vendor team working on Dynamics CRM system to improve coding standards and quality.
- Leading a small team to rapidly develop a proof of concept for a key integration with a major social media platform. Awarded "Most Valuable Team of the Month" and a "Gold Star Award" for this effort.
- Leading the effort on the UI and services design for a new advertising experience for Outlook.com. Worked with a small team on a proof of concept.
- Using the technologies: C#, JavaScript, WCF, PHP

Atlas Media Console – Atlas API

2009 – 2010

As **Senior Development Lead**, I took over a team of 12 developers owning the internal and external APIs driving the Atlas Media Console, the application for establishing redirects for third-party tracking of search campaigns.

- Establishing new standards for rigorous automated validation of API releases allowed for the release of a project that had become stalled due to concerns about safely releasing it.
- Normalizing the Atlas API technology stack to Microsoft adCenter API technologies.
- Moving the team to agile practices, particularly retrospectives, velocity-based estimation and test-driven development.
- Establishing practice of weekly team code reviews and regular design discussions.
- Driving improving code coverage to over 98%.
- Using the technologies: C#, ASP.NET, WCF, SQL Server

Atlas Search – Search Engine Platform

2007 – 2009

As **Senior Development Lead**, led the Search Engine Platform—a key component of Atlas's tools for third-party tracking of pay-per-click search engine advertising.

- Leading the development of Compass, a customized application surface for booking search campaigns optimized for large agencies.

- Designing a pattern for the use of simulators for third-party APIs, to allow for continuous integration, failure-mode testing, and fully automated testing.
- Establishing a new pattern for self-diagnostic endpoints which greatly improved the confidence in the complex release of the service across dozens of servers.
- Using the technologies: C#, SQL Server, WCF, WF, ASP.NET, SQL Server

Atlas Solutions, a division of aQuantive, Inc. — Seattle, WA**2006 – 2007**

As **Senior Software Development Engineer** and, eventually as **Software Development Manager**, led and drove the Search Engine Platform—a key component of Atlas’s tools for third-party tracking of pay-per-click search engine advertising.

Atlas and its parent company, aQuantive, were acquired by Microsoft in 2007. I continued in the same role at Microsoft.

Asystis, Inc. — Seattle, WA**2002 – 2006**

As **Vice President** of this startup company, I oversaw all software development and operations of the production services.

- Designed and developed an integrated web-harvesting and web-based personalized data presentation application based on ASP.NET, C#, and MySQL.
- Application made extensive use of XML, XSLT, XPath, and Ajax-style JavaScript features.
- Back-end had multi-threaded Windows service running 24x7.
- Maintained an off-site multi-server application cluster for mission-critical operation with minimal downtime.
- Using the technologies: C#, Visual Basic, ASP.NET, MySQL, XSLT

EDUCATION**University of Washington, Seattle, WA****2000 – 2002****Bachelor of Science in Computer Science (with Distinction) — *summa cum laude*****2002**

- Emphasis on Operating Systems, Algorithms, Compilers and Databases
- Developed reference implementation of Relaxed MultiJava in year-long senior research project. Co-authored paper published at ACM OOPSLA '03.
- Created automated defragmentation service for Windows 2000 as senior capstone on operating systems.
- Created versioning file system for Linux as class project.
- *Phi Beta Kappa* and Dean’s List
- GPA: 3.95/4.00

PUBLISHING**Association for Computing Machinery****2003**

Millstein, T., Reay, M., and Chambers, C.

“Relaxed MultiJava: balancing extensibility and modular typechecking.”

Presented at the ACM *OOPSLA '03* conference.