Doug Wiegley

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Experience

IBM

IBM Cloud Next Generation Networking group, focusing on bringing advanced SDN and tenant networking to IBM Cloud.

Cloud Networking Architect, SDN & Datapath   1/2017 – present

- Conducted numerous requirements, architecture, design, and feedback sessions across different organizations, to coordinate the various teams in delivering a coherent product.
- Designed and built tenant networking architectures using VLANs, VXLANs using hardware in the underlays, and utilizing existing gear and new vendors.
- Designed and prototyped new tenant networking architectures using edge-to-edge overlays, which are agnostic of the underlay networking gear, using both software tunnels and hardware smartNICs, and using either L2 semantic or pure L3 semantics for scale.
- Designed new L3-only network control plane for either VXLAN wrappers or GUE, to better scale the network learning control plane and get around L2 scaling concerns. Implementation focused on Cavium smartNICs and OpenvSwitch.
- Helped design, build, and deploy a next-generation network orchestration plane using kubernetes and gRPC.
- Deployed, operated, and extended a 500 core OpenStack cloud for dev, testing, and CI use.
- Led a team varying from 2-12 people, focused on the core datapath of the next generation networking architecture.

A10 NETWORKS

Delivers appliance and virtual form factors for advanced packet load balancers with hardware acceleration, encryption, and L4-7 features. The same underlying accelerated network platform is also used to deliver carrier grade NAT, DDOS mitigation, and SSL intercept products.

Principal Software Engineer   4/2014 – 1/2017

- Became a core contributor in OpenStack Neutron and LBaaS projects and a member of the Neutron project driver team.
- Developed A10 LBaaS v2 openstack driver, using both hardware and virtual topologies.
- Helped design, build, and deploy a rewrite of A10's Global License Manager (GLM), which became A10's end customer business portal, including merging seven license clients, normalizing business processes, integrating with finance Oracle, adding pay-as-you-go licensing, subscription licensing, partner licensing, and bare-metal usb-key licensing, using ruby-on-rails as the main framework, and python with tornado for local and distributed proxies.
- Modified virtual A10 appliance system for more universal support in KVM environments.
- Designed remote management backchannel into license subsystem, for unifying cloud management under the same portal.
- Worked with wireline and wireless telcos, and large enterprises, prototyping and delivering custom openstack solutions.
- Developed appliance API abstraction library for the major versions of ACOS, used by OpenStack integration. Also wrote a "mini ACOS appliance" using python/flask and an open-source reverse proxy, as a mock in CI tests.
- Built and operated a production OpenStack cloud with 25 nodes, out of leftover hardware. Used by multiple cross functional groups within the company, and by our automated CI and appliance orchestration.
- Handled releases of openstack packages, python sdks, and deployment of production services.
- Managed a remote team that grew from six to fourteen people. Mentored developers, and upcoming managers. Handled recruiting, retention, scheduling, and other project management duties. Provided architectural direction and advocated and used cross-functional agile processes. Our team's focus was on cloud and cloud integrations, including licensing efforts, OpenStack, SDKs, and integrating the customer experience with all of A10's infrastructure systems.

UCEEM

A cloud based, embedded device management platform that cloud Wi-Fi and cellular device management.

CTO   3/2012 – 4/2014

- Provide technical strategy including defining the roadmap, product architecture, and interfacing with sales and marketing.
- Deployed and scaled the product suite including Rails web service, RADIUS slave deployment, tuning, and hardening.
- Designed and implemented features including Radius, Device and Identity management, Subscription billing system, Network topology mapping, Log inference, Unified management object model via JSON, LDAP to JSON proxy, REST APIs, API signature mechanism, Event callouts from RADIUS to web, Email hooks, Longpoll hooks, and Device cmds.
- Integrated the system with APIs including Google Auth, LDAP Auth, Cradlepoint ECM, Verizon Soap, and TR-069.
- Wrote and released ruby gems for reverse mac lookup, email_regex validation, and generic mac address processing.
- Manage multiple departments including a team of 8 developers plus contractors, the QA department, and human resources.
- Provide training, mentorship and Agile leadership to developers and contractors.

Parkside Software, LLC

A contracting company that specializes in scalable web development, product architecture and emergency project management.

Owner   3/2011 – 4/2014

- Acted as CTO and/or Technical advisor for several startups, including product architecture for web and mobile, interviewing development team, code reviews and technical advice. (29Club, Gabnabit, TeqSpring incubator)
- Conducted technology and scalability reviews for several companies (Cradlepoint's WiPipe Central cloud management platform, Enduris, Jot-It, Idealab incubator)
- Designed, managed and implemented projects including an iPad based survey collection system, integrating MongoDB for device log archiving, and making changes to increase scalability for Enduris, Cradlepoint, and Jot-It.
- Managed a local and remote development team of software developers, Q/A testers and designers.

iFanMedia / iCitizen

A cloud based mobile platform providing Radio, City and Community Apps on Apple/iOS and Android mobile phones based on Ruby-on-Rails, MySQL, REST APIs, and OpenX.

CTO   3/2010 – 12/2012

- Provided architectural direction for the entire product suite, and management and mentoring of the technical team using agile and scrum processes.
- Deployed, rewrote and maintained the iFan Mobile API Platform including systems for content distribution, live host interaction, in-context social media conversations and viral sharing. Also, a cloud-based municipal business license database with support for listing customization, mobile-to-mobile chatting, daily deals, mobile ad serving, promotions and analytics.
- Setup and maintained the product development system including automated centralized builds for rails, iOS, and Android, production environments utilizing cloud servers, and basic company services like email, calendar, and bug tracking.

Mirapoint / Critical Path

An appliance-based email/messaging platform, with mail store and security filtering features.

Architect 2008 – 9/2011, Principal Engineer 2005 – 2008, Software Developer 2000 – 2005

- Core MTA team member, working on the main SMTP MTA, Exchange calendar support, a search indexer, lifecycle timing data, admin modules, POP, IMAP, DB, antivirus, LDAP, kernel threading, NIC failover, auditing, access permissions, a caching daemon, licensing, antivirus and networking.
- Improved performance and stability in SMTP, the filtering subsystem, the asynchronous network engine, database server, the socket passing library, a highly scalable memory cache and the SSL subsystem.

- Interacted with departments including QA, technical publications, support, sales and marketing to work on product planning, emergency customer hot site resolutions, training and other issues.
- Provided management and technical leadership for a team of from 3 to 25 engineers in porting the Mirapoint OS to Linux.
- Improved the development process with performance tests, a new build system and installer and test suites.
- Ported appliance code from FreeBSD to Linux.

Skills

- Languages: Python, Ruby, C, C++, Perl, Shell, Assembly
- Web Development: gRPC, Flask, Rails, REST, OAuth, XML, JSON, YML, SAML, SOAP
- Cloud Providers: AWS, EC2, S3, Rackspace, Digital Ocean, Cloud, PaaS, IBM SoftLayer
- Messaging: SMTP, MIME, LDAP, Auth, POP, IMAP, iCal, Antivirus, Antispam, Greylisting, Reputation
- Networking: TCP/IP, UDP, ARP, DNS, DHCP, NTP, SNMP, HTTP, SSL/TLS, iptables, ipsec, multicast
- SDN: OpenvSwitch, Neutron, vlan, vxlan, geneve, gue, fou, bgp, mpls, evpn
- Network Management: SNMP, TR-069, CWMP, RADIUS, WAN/Cloud management
- Operating Systems/Tools: Linux/Unix, Windows, Mysql, Postgres, Redis, memcache
- Kernel Programming: Concurrency, Multi-threading, Asynchronous programming, Drivers
- Other skill areas: Sleepycat, System administration, Telecommuting, Rails scalability
- Leadership: CTO, Product architecture, Team management, Agile

Education

Carnegie Mellon University

Bachelor of Science, Computer Science