

For Agile Richmond

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The Software Defined Enterprise: Where Agile, DevOps and the Cloud Meet



FORMERLY
dominion 
digital 

Who and Why

Who

- Director of Technology – [SingleStone](#)
- Cloud Research Analyst – [Gigaom](#)
- Live in RVA – Bellevue neighborhood
- Sometimes tweet under [@ryanshriver](#)
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Why

- Software is a passion
- These are exciting times
- I like Agile Richmond

Not so long ago...

- People used web sites seated at their desks
- Software was released infrequently using waterfall
- Web apps had 3 tiers and ran on physical servers
- Dev and Ops teams blamed each other when issues arose
- Tweet's were made by birds and clouds were things in the sky

What is a Software Defined Enterprise?

An organization where software is core to the way they innovate and interact with their customers

Software includes the design, delivery and operations of software systems built in-house or purchased

The Software Defined Enterprise: 5 Trends

Trend #1: Rise of the Digital Customer Experience

- Since the late 90's the internet and social media have shifted the balance of power from producers to consumers
- Today's global, mobile and social customers increasingly use web and mobile apps to conduct business and stay connected
- Apps (software) is increasingly what connects customers to organizations.
- In response to the changing customer, organizations are becoming software-defined enterprises

Takeaways

- Software as an enabler, not just a cost center
- Organizations are becoming more service (and experience) oriented

Trend #2: Customer insights is driving cloud and big data

- An explosion of customer and machine-generated data is available today
- A gold rush for organizations of all sizes to create value from this data – while balancing privacy
- Deeper customer insights is driving new analytics approaches and data platforms
- Marketing doesn't need IT – they have options

Takeaways

- Cloud and big data enable vast processing for everyone with a credit card
- Analytics is moving from back-office to real time

Trend #3: Speed and flexibility are driving Agile and DevOps

- Faster time to market and flexibility are consistently the top reasons for Agile adoption
- Faster time to market, not cost savings, is the top driver in cloud adoption
- For the software defined enterprise, Agile and DevOps are core to helping improve time to market without sacrificing quality

Takeaways

- Agile focuses on the software delivery
- DevOps connects delivery with operations
- Together they optimize *Concept to Cash*

Trend #4: Software is a competitive advantage, not a cost center

- In the software defined enterprise, the ability to do software delivery better and faster than the competition is a big competitive advantage
- When something is a competitive advantage, the goal is to not just do it cheaper – the goal is to do it better. This requires investment and focus.
- Leading organizations are insourcing, not outsourcing, key software talent

“The whole customer experience, the product, is manifested in software, either online or mobile. So if you are not good at delivering great software-driven customer experiences, you're going to be challenged.”

– Rob Alexander, CIO of Capital One in 2014
[Information Week](#) article

Trend #5: Software is creating new business models (and jobs)

- Organizations are building their business models around software-based products and services
- Product thinking is prevailing over project thinking for software delivery
- Even traditional software product companies are becoming services companies – and learning new skills
- Investment is flowing into the RVA start-ups from groups such as New Dominion Angels

Examples in RVA

- Fusion
- SnagAJob
- Unboxed
- GetLoaded
- Soft Chalk
- Refersal
- PlanG
- *Lots of others*

Agile, DevOps and the Cloud are core to a Software Defined Enterprise

Think and Act Agile

- For most folks in this room, I'm assuming you're already headed here. Keep it up!
- Don't try to just get bigger before getting better (be effective and efficient).
- Don't ignore scale, but don't get consumed by it either
- Think of agile in terms of product development, not just project management.
 - *Who owns your product in the market?*
 - *Are you incented to stay in business or go out?*

Agile in the Software-Defined Enterprise

Agile method	Popular Uses
Scrum	Plan-driven work like product development
XP	Engineering focused practices
Kanban	Response-driven work like operations
SAFe	Agile at scale across the enterprise
Lean Start Up	Start-ups and new product development

What is DevOps?

- Started around 2009 by progressive system admins who wanted to extend agile methods and practices to operations
- Fundamentally about culture change and breaking down silos between development and operations
- Today the term means lots of things to lots of people
- In practice promotes communication, collaboration with a heavy dose of automation (and tools)

DevOps in the Software Defined Enterprise

- DevOps is growing as Ops tries to keep pace with Agile delivery
- Also growing as hardware is becoming software in the cloud
- Operations thinks like developers. Developers appreciate operations
- Ops organizations are dual purpose:
 - running and monitoring infrastructure and apps
 - infrastructure engineering for new capabilities and time to market

Tips for introducing DevOps

- Invite operations to agile planning and demos
- Ask agile team to observe the next production release
- Do a lunch and learn. Get to know each other.
- Start sharing tools

Popular DevOps Tools

Development

- Version control repository
- Automated build code
- Automated deploy code
- Automated test code
- App configuration code and tests
- Static analysis
- Continuous integration

Collaboration

- Wikis
- Instant messaging
- Ticketing and task management
- Knowledge bases
- Mailing lists
- Physical and virtual team rooms

Operations

- Monitoring
- Service management
- Log file analysis
- Virtual or cloud management
- Infrastructure provisioning code and tests
- Infrastructure configuration code and tests
- Run book automation

Cloud: A brief history

- Amazon created the cloud industry by finding a profitable use for the extra hardware capacity for Amazon.com
- Created a new business model around usage-based fees for compute, storage and network infrastructure
- All of this is managed via a web-based console and API's
- Similar to power utilities model for your electricity and water.

Key Cloud Players

- Amazon
- Microsoft Azure
- Google Compute Engine
- OpenShift:
 - RedHat
 - VMWare
 - Rackspace
 - IBM
 - HP
 - Oracle

Cloud: An overview

- Generally involves elastic compute, storage and network infrastructure that can grow (and shrink) on demand with usage-based fees
- Cloud provides services necessary to run apps while abstracting the underlying details of how it's done
- Popular models include:
 - Infrastructure as a Service (IaaS)
 - Platform as a Service (PaaS)
 - Software as a Service (SaaS)

Recent Survey Results

- Within large IT organizations **only 21% are using the cloud for app development**
- Those using the cloud **53% report faster time to market** and their projects are delivered on average **3 weeks earlier**
- The biggest concern for adoption is **security**

Cloud in the Software Defined Enterprise

- Dramatically lowers the costs of compute and storage and speed to provision and configure
- Start-ups can compete directly with large organizations and bring new ideas to market faster
- Software Defined Enterprises are moving to a continuous delivery of new features to customers – especially when used with DevOps
- Time is money so faster can be cheaper and scalable

Tips for trying the cloud:

- Try Amazon or Azure (for free). Watch a video. Take a tutorial.
- Consider cloud for dev/test, especially performance testing
- Don't be scared – security has come a long way recently

Let's Recap

In Summary

A software defined enterprise is an organization where software is core to the way they innovate and interact with their customers

5 trends for software defined enterprises:

1. Rise of the Digital Customer Experience
2. Customer insights is driving cloud and big data
3. Speed and flexibility are driving Agile and DevOps
4. Software is a competitive advantage, not a cost center
5. Software is creating new business models (and jobs)

In Summary (cont.)

- Agile is enabling faster time to market and flexibility, important for improving the digital customer experience
- DevOps can help your dev and ops teams work more in unison, enabling speed without sacrificing quality
- Cloud is enabling entire new business models with vast elastic resources at your fingertips. It's fundamentally changing how apps are designed, built, deployed and run.
- Don't wait get started tomorrow with the tips provided

Thank you

- Slides available at ryanshriver.com
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