



Shared IT Services for Higher Education & Research

Conference 2018

# Research Computing: R&D for Enterprise IT

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Hi, I'm Jeff

- Senior System Administrator, UVic Systems

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- 11 years with the Enterprise IT side of the shop

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- Senior System Administrator, UVic Systems
- 11 years with the Enterprise IT side of the shop
- Made the jump to Research Computing in Nov 2017



Research Computing

Enterprise IT

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- Prioritizes highest performance

## Enterprise IT

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- Demands maximum scalability

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- Moves aggressively to leverage new technologies

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- Demands maximum stability and uptime
- Waits to see proof of established success in new technologies



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- Prioritizes highest performance
- Demands maximum scalability
- Moves aggressively to leverage new technologies
- Operates a very short tech lifecycle

## Enterprise IT

- Prioritizes efficiency
- Demands maximum stability and uptime
- Waits to see proof of established success in new technologies
- Operates a tech lifecycle ranging from long to epic

## Research Computing

- Prioritizes highest performance
- Demands maximum scalability
- Moves aggressively to leverage new technologies
- Operates a very short tech lifecycle
- Accustomed to environmental volatility

## Enterprise IT

- Prioritizes efficiency
- Demands maximum stability and uptime
- Waits to see proof of established success in new technologies
- Operates a tech lifecycle ranging from long to epic
- Focused on limiting environmental volatility



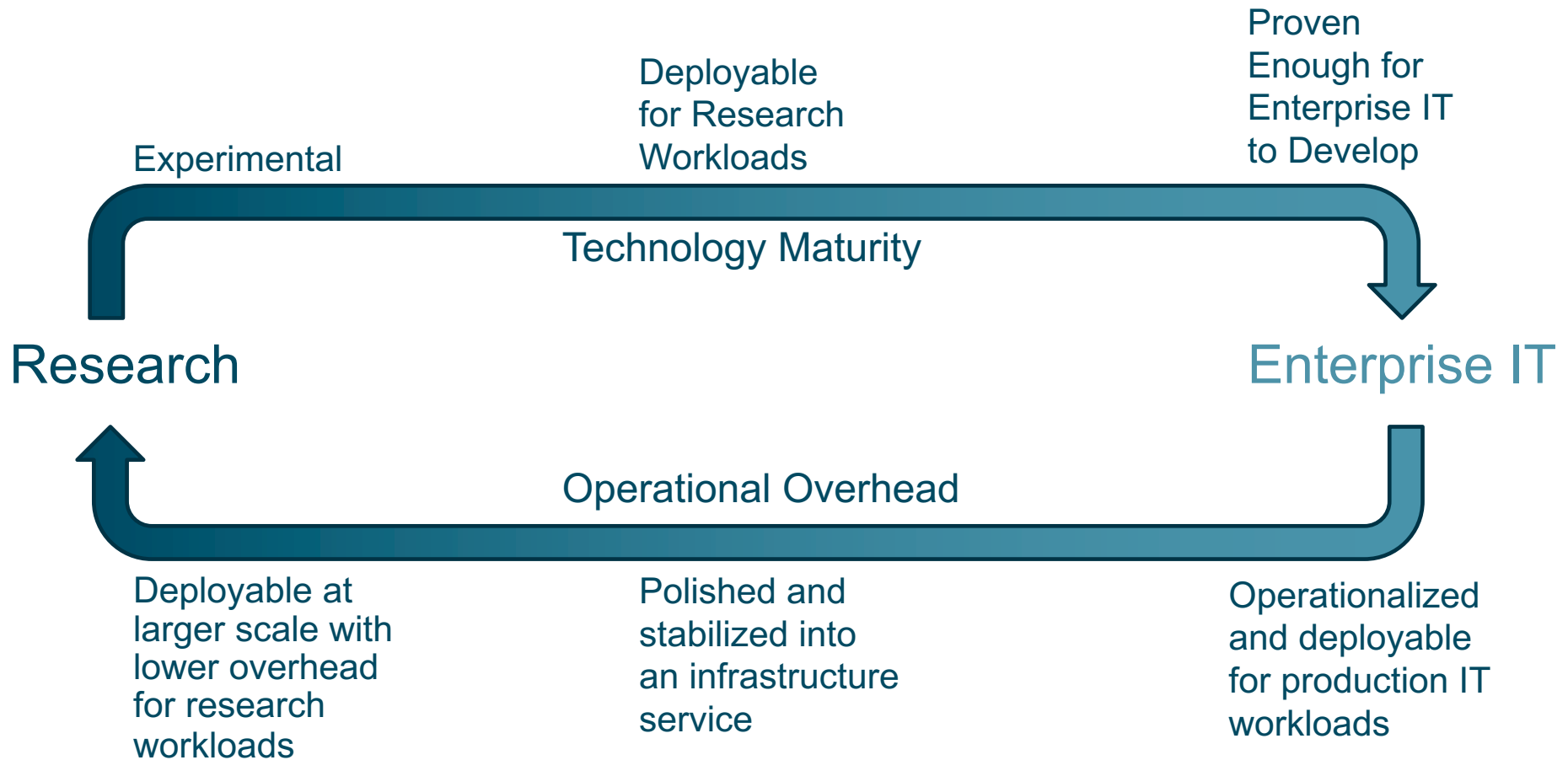




# Are these functions at odds?



# Nope – they're part of the same pipeline!





# Research Computing runs Experimental R&D

- Shorter tech lifecycle means more freedom to experiment and test concepts with limited legacy risk

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- Shorter tech lifecycle means more freedom to experiment and test concepts with limited legacy risk
- Aggressive adoption of new technologies allows anticipation of Enterprise IT's needs
- Experiments that prove successful can form the input to Enterprise IT's product development process

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# Enterprise IT Develops and Matures Technologies

- Develops policy and process



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- Formalizes operational procedures



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- Develops policy and process
- Formalizes operational procedures
- Extends initial proof-of-concept to fill out features required for infrastructure-grade deployments



Output of the pipeline is infrastructure-grade tech

- Long-lifecycle supportability



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- Rapid, streamlined deployment



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Output of the pipeline is infrastructure-grade tech

- Long-lifecycle supportability
- Rapid, streamlined deployment
- Proven track record in both environments
- Mature processes and policies



# Case Study: Ansible Configuration Management

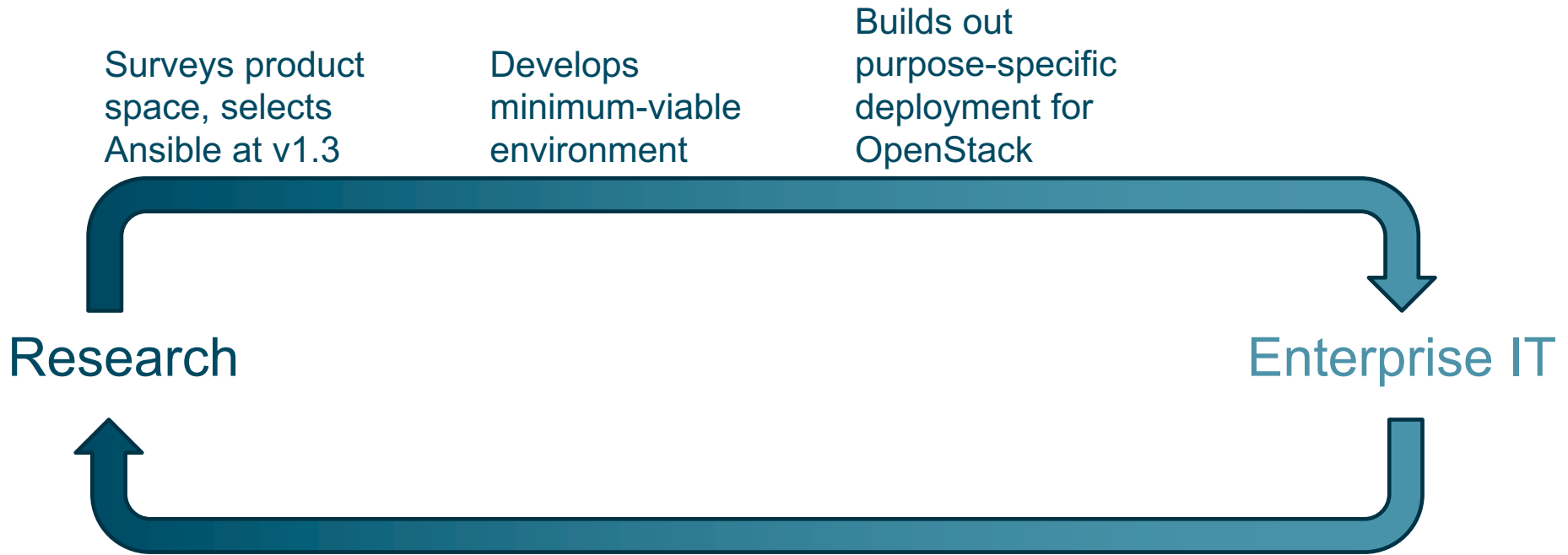
Surveys product  
space, selects  
Ansible at v1.3



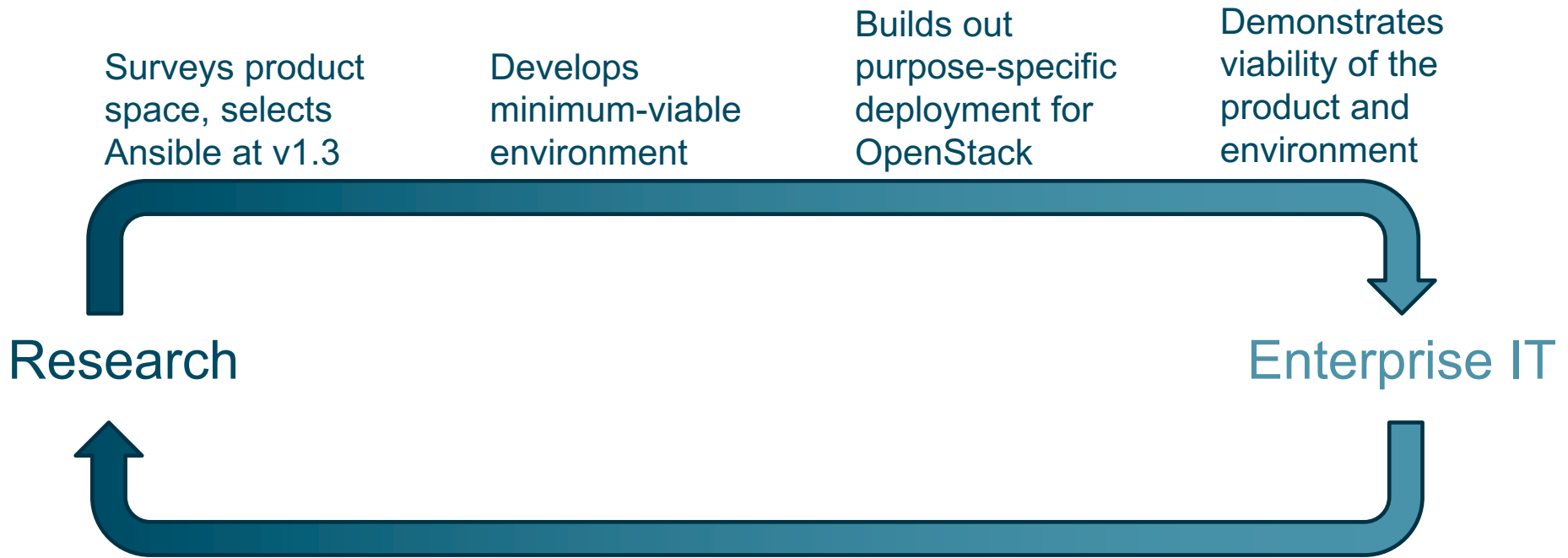
# Case Study: Ansible Configuration Management



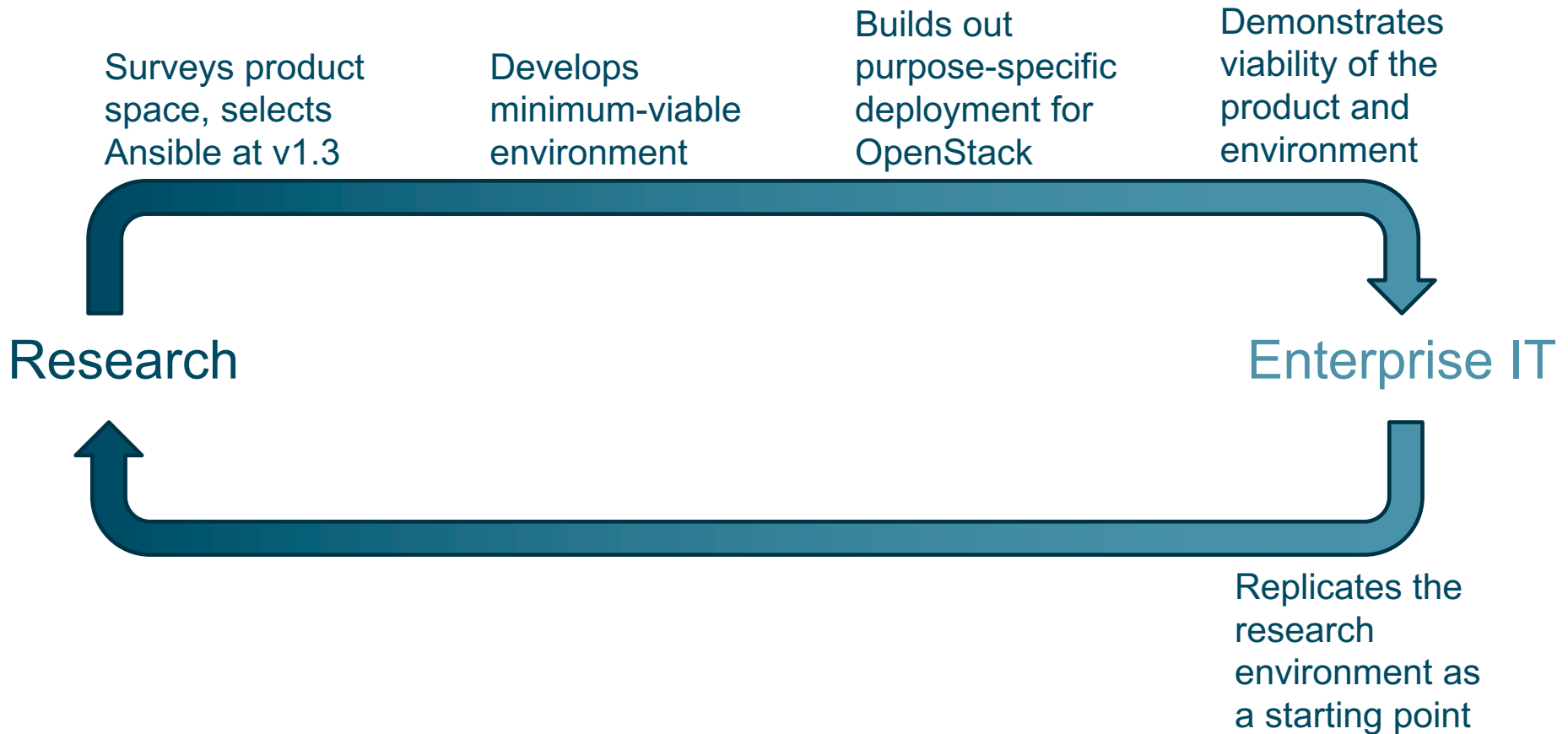
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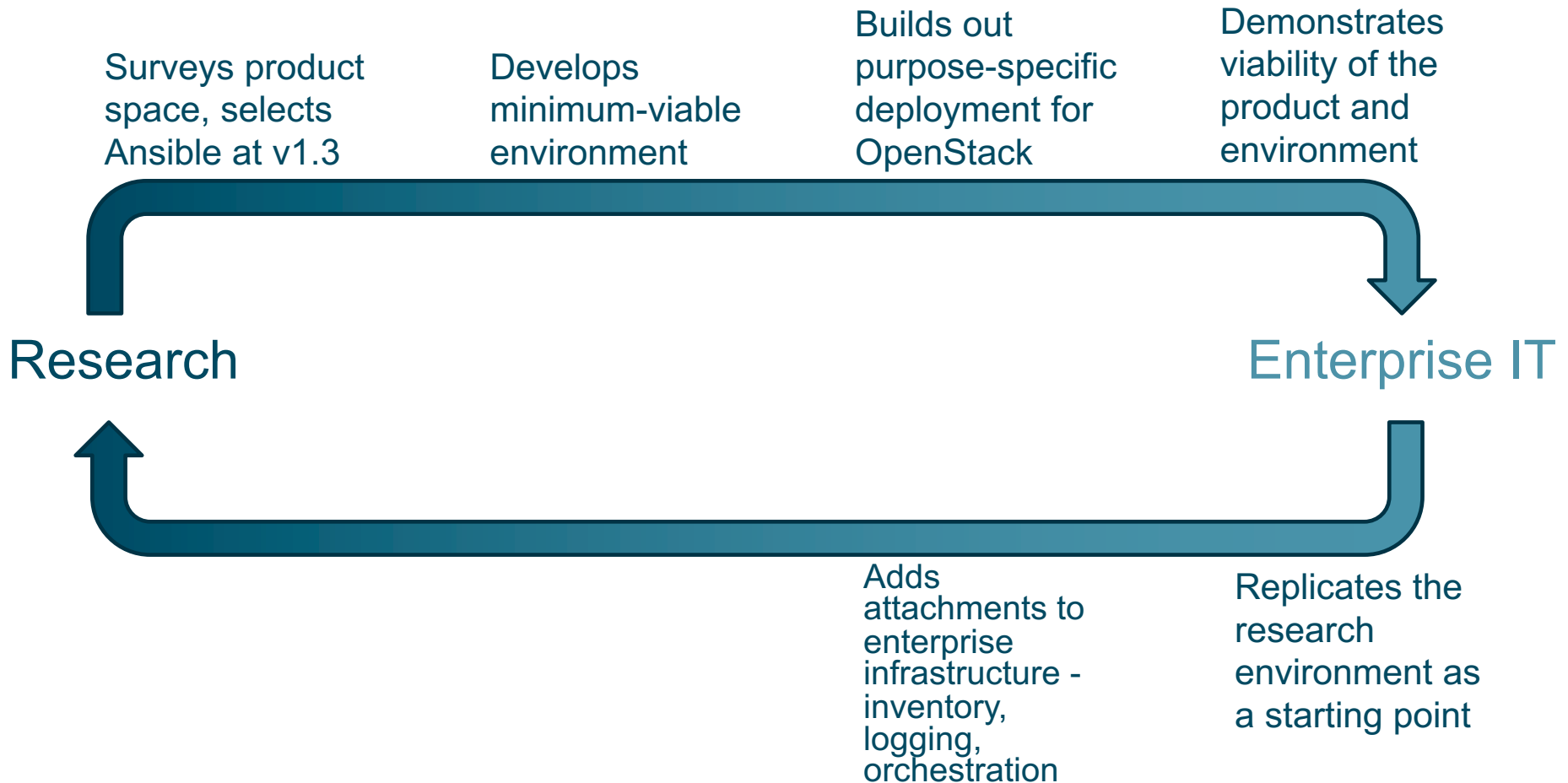
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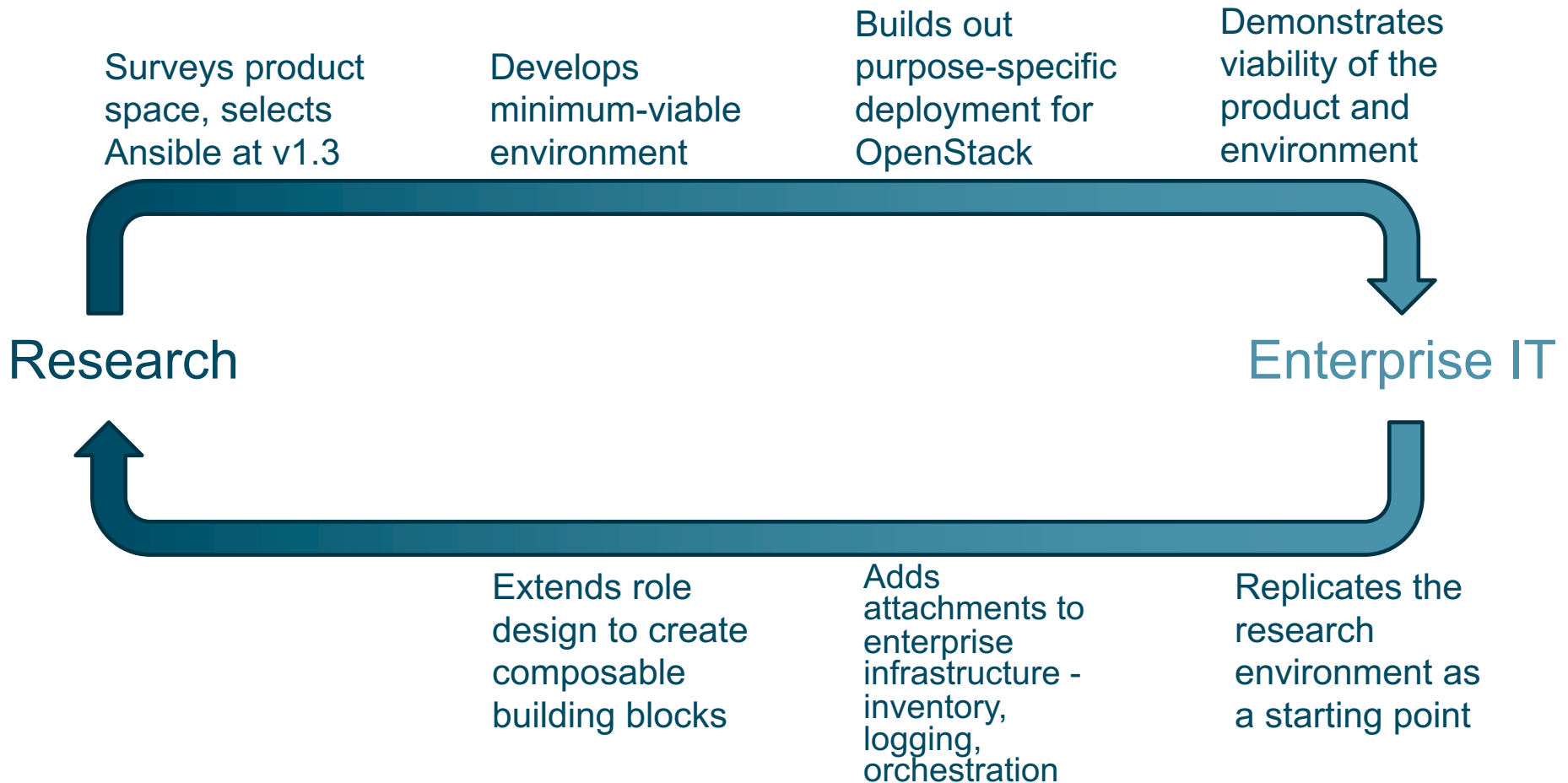
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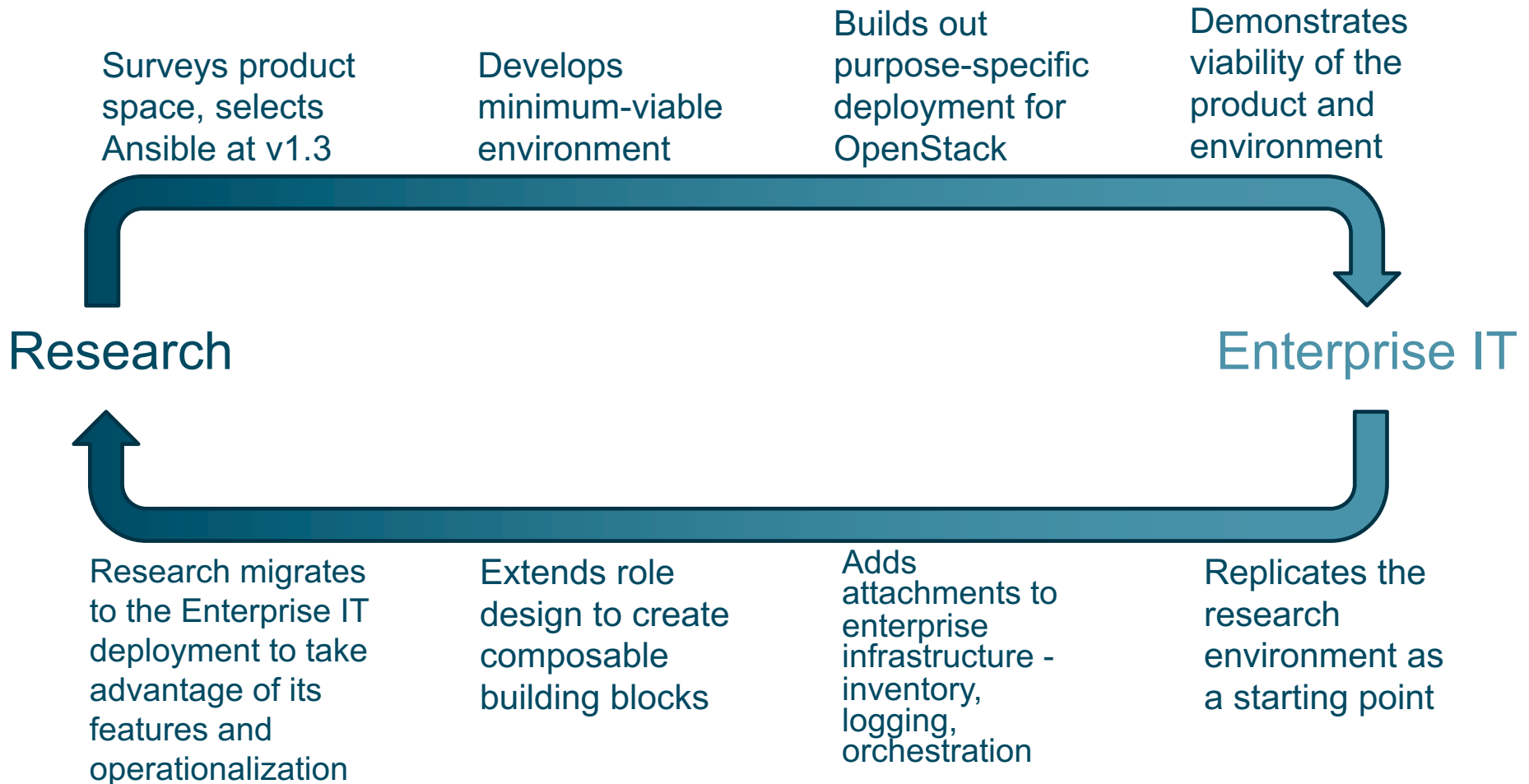
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## Many UVic Services Came Through This Pipeline:

- Clustered, Load-Balanced Web Services
- New Operating Systems (RHEL7 Commissioning)
- IPMI / BMC Automation
- Private Cloud Virtualization
- Containerized Software Platforms

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# Non-Technical Benefits

- Lets both teams focus on their strengths



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# Non-Technical Benefits

- Lets both teams focus on their strengths
- Cuts down the barrier to entry for new tech in Enterprise IT
- Provides a business case for experimental tech development
- Expedites time-to-delivery for Enterprise IT projects



# Strategic Benefits

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- Mitigates some perceived risks of closed-source proprietary software



Thanks!  
Any Questions?