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## PowerShell Conference Europe

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3

2

**1**



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# SSH & SSHArc: What's New and What's Next

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*Tess Gauthier & Steven Bucher*

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**PSCONF EU SPEAKER**

# Tess Gauthier

- Software Engineer at Microsoft
- Maintainer of OpenSSH for Windows
- First PSConfEU!



**PSCONF EU SPEAKER**

# Steven Bucher

- Product Manager at Microsoft
- Maintainer of OpenSSH for Windows
- Fourth PSConfEU!

# Introduction

- Win32-OpenSSH is an open-source fork of OpenBSD's OpenSSH-Portable repository
- Why use SSH?
  - auditable & secure remote login
  - supports command execution and file transfer
  - actively maintained
- SSH Server (SSHD) is installed-by-default on Windows Server 2025





# Demo

Server Manager UI



# SSH Server (SSHD)

- Processes incoming connecting attempts
- Windows service runs in *SYSTEM* context
- Windows firewall rules filter network traffic
- Listens for traffic on port 22 by default
- Can be configured to listen on multiple ports
- *SSHD\_Config* file holds configuration settings

# SSH Posture Control

- Powered by OSConfig PowerShell Module
- Supports both audit and configuration scenarios
- Available via Azure Portal or directly in PowerShell
- Use cases:
  - **Security:** reduces attack surface
  - **Compliance:** follows industry and organization standards
  - **Productivity:** creates consistency at-scale

# SSH Posture Control Case Study

- CVE-2023-48795: “Terrapin Attack”
- Targeted Key Exchange Pre-Authentication
- Mitigation for OpenSSH for Windows:
  - Software update to patch for strict KEX protocol
  - Configuration update for specific ciphers & MACs:
    - chacha20-poly1305 cipher
    - \*-cbc ciphers using \*-etm MACs

# Demo

Posture Control



# What's Next

- Window SSH Posture Control in preview
- SSHDConfig DSC Resources in (early) development:
  - Export sshd\_config settings based on `SSHD -T`
  - Additional global configuration settings for Windows
    - Audit and configure default shell
  - Coming soon in a DSC preview release
  - Please provide feedback and report any issues!

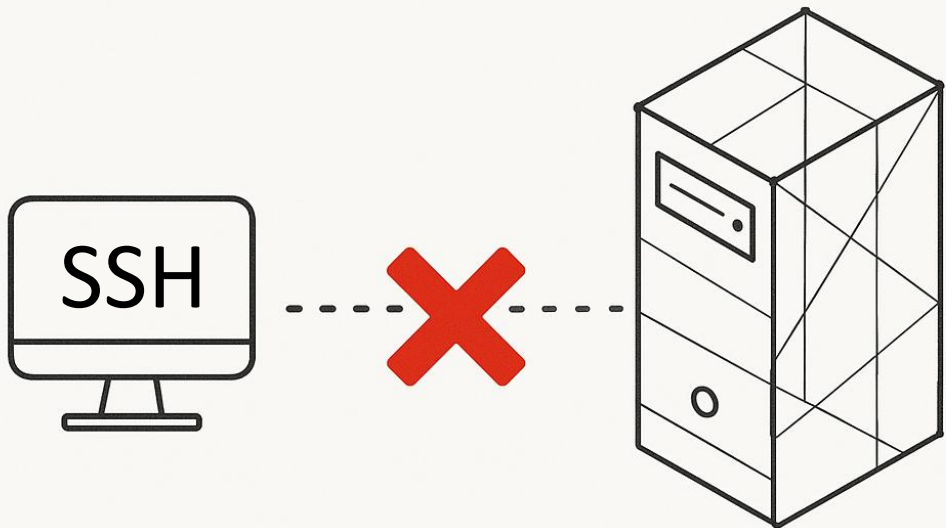
# Demo

SSHD

Config

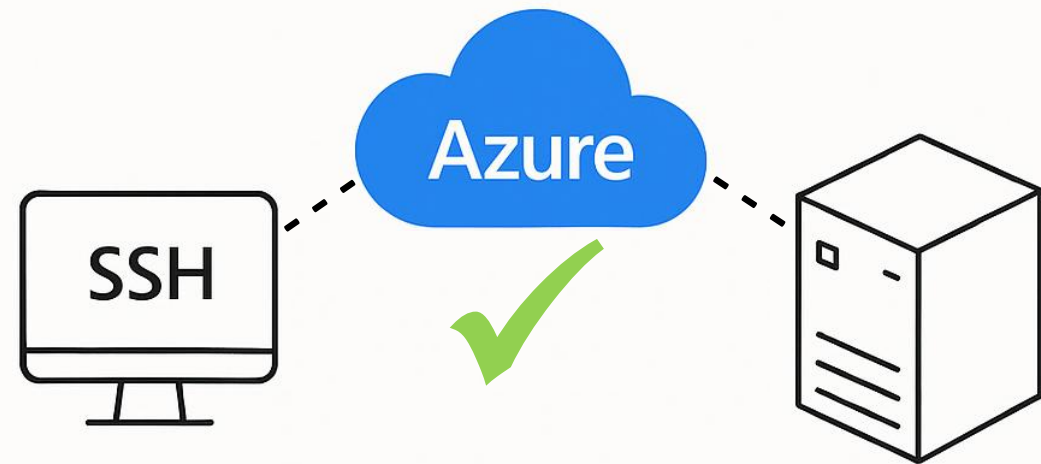


# Azure Investments in SSH: SSH for Arc-Enabled Servers



Client

Azure Arc-  
enabled server



SSH for Azure Arc-enabled servers



# Demo

SSH for  
Arc-Enabled  
Servers



# Key Takeaways

- SSH Server (SSHD) is installed-by-default on Windows Server 2025
- SSH Posture Control supports auditing and configuring SSH Server settings on Azure machines
- SSH for Arc-Enabled Servers provides remote access without a public IP address or additional open ports

# Call to Action!

- Give SSH previews a try
  - <https://github.com/powershell/win32-openssh/releases>
- Learn more about SSH for Windows
  - <https://aka.ms/WIn32-OpenSSH>
- Try out SSH Posture Control for Windows
  - <https://aka.ms/SSHPostureControlWindows>
- Learn more about SSH Arc
  - <https://aka.ms/SSHArc>
- Links included in the conference GitHub page!

# Q&A

15 minutes



# Backup

# Azure Investments in SSH: SSH for Arc-Enabled Servers

