

Microsoft Azure Service Fabric 6.5 Second Refresh Release Notes

This release includes the bug fixes and features described in this document. This release includes runtime, SDKs and Windows Server Standalone deployments to run on-premises.

The following packages and versions are part of this release

Service Fabric Runtime	Ubuntu	<i>6.5.460.1</i>
	Windows	<i>6.5.658.9590</i>
Service Fabric for Windows Server	Service Fabric Standalone Installer Package	<i>6.5.658.9590</i>
.NET SDK	Windows .NET SDK	<i>3.4.658</i>
	Microsoft.ServiceFabric	<i>6.5.658</i>
	Reliable Services and Reliable Actors	<i>3.4.658</i>
	ASP.NET Core Service Fabric integration	<i>3.4.658</i>
Java SDK	Java for Linux SDK	<i>1.0.5</i>
Service Fabric PowerShell and CLI	AzureRM PowerShell Module	<i>0.3.15</i>
	SFCTL	<i>8.0.0</i>
Service Fabric Tooling	Visual Studio Tooling	<i>2.5.20615.1</i>

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Key Announcements

- **Public Preview of Managed Identity for Azure Service Fabric applications**

Azure Service Fabric applications now support user- and system-assigned managed identities. This allows accessing other Azure resources which support Azure AD authentication, including Key Vault, without requiring management of service principal credentials. To learn more about working with Managed Service Identity in Azure Service Fabric, please see our [documentation](#).

- **GA (Generally Available) of Application Resource Model**

The deployment of Service Fabric applications as resources via Azure Resource Manager is now generally available. This is the recommended method of deploying Service Fabric applications to an Azure based Service Fabric cluster. This update makes it possible to describe applications and services in JSON and deploy them in the same Resource Manager template as your cluster. The process of application registration, provisioning, and deployment can all happen in one step. This is the best practice to manage application life cycle in your cluster. For more information, please see our [documentation](#).

Breaking Change Announcements

- Starting in this release, if you specify a static port and assign it within the application port range resulting in a conflict, a **Health Warning** will be issued. The application deployment will continue in sync with current 6.5 behavior. However, in future major releases this application deployment will be prevented. For more information, please see **Warning** section in our [documentation](#).

Service Fabric Runtime

Versions	Issue Type	Description	Resolution
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Bug	FabricGateway.exe may crash if certain types of AAD authentication is used.	Impact: Requests which authenticate as an application instead of a user through AAD cause FabricGateway to crash. This could mean that the cluster becomes unresponsive if all gateway instances are impacted. Fix: Allow authentication as an application in addition to authentication as a user when using AAD
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Feature	Enable http gateway telemetry by default	Brief desc: This feature captures telemetry for requests going into http gateway. Specifically, it looks for the name of the request going to the gateway, not including the provided parameters, the client the request came from, and the success or failure of the request. This can be turned off or configured as described in fabric settings. Doc: https://docs.microsoft.com/azure/service-fabric/service-fabric-cluster-fabric-settings#diagnostics
Windows 6.5.658.9590	Bug	Retention stops working after the movement of Backup restore service's primary.	Impact: Retention does not work properly after FabricBRS's primary moves/fails over to a different node. Fix: Fixed by arming retention timer properly after FabricBRS's primary's movement.
Windows 6.5.658.9590	Bug	Application activation after certificate upgrade fails with error: There is already a certificate with thumbprint bound to port.	Impact: Under certain circumstances Service Fabric runtime's internal state about certificates bound to endpoints was not cleaned up leading to application activation failures. Fix: Resolved by appropriately cleaning up the internal state.
Windows 6.5.658.9590	Bug	FileStoreService.exe may crash when certain configurations change by config upgrade.	Impact: When certain configurations change, the notification handler may cause FileStoreService.exe to crash. This means the ImageStoreService's primary replica is switched unnecessarily. Fix: Fixed handler's an access violation
Windows 6.5.658.9590	Bug	FileStoreService.exe may crash with invalid characters in Upload, Commit and Delete commands.	Impact: When FileStoreService.exe handles write commands like Upload, Commit and Delete, an invalid character in parameter causes the process to crash. This means if a user keeps retrying with same parameter, the ImageStoreService switches the primary replica accordingly. Fix: Fixed request handler to check the invalid character and reject such input.

Windows 6.5.658.9590	Bug	ReportHealth on Application Activations if they have a static port within ApplicationPortRange.	<p>Impact: There are endpoint resolution conflicts because customer specifies a static port within ApplicationPortRange.</p> <p>Fix: This is a breaking change where service activations will report health for 7 days if there is an endpoint with static port that is within the application port range</p> <p>Doc: https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-application-and-service-manifests#describe-a-service-in-servicemanifestxml</p>
Windows 6.5.658.9590	Bug	Increase Lease Heartbeat unresponsive duration and use WinSock instead of TCPTransport	<p>Impact: When the machine under CPU pressure, Network prob using TCPTransport stuck at acquiring certificate, which leads to machine heartbeat taking longer time and bug check in the end.</p> <p>Fix: Using WinSock instead of TCPTransport to do Network prob, which does a TCP layer connect and does not need to authentication.</p>
Windows 6.5.658.9590	Bug	Create cluster failure event logs from remote machines should be only for the time frame post-setup start	<p>Impact: For standalone deployment troubleshooting we emit a set of event logs from the target machines. When hitting repeated failures customers were seeing errors from previous cluster deployments which was jarring and confusing.</p> <p>Fix: This is fixed to base the time off the SF runtime package installation directory creation time stamp, such that logs emitted are only from the latest deployment.</p>
Windows 6.5.658.9590	Bug	Fabric Runtime Installer: Early termination/killing the process causes the temporary installation directory to get left behind	<p>Impact: When upgrading SF runtime for the SDK dev environment, in cases where installation conflicts are hit due to unexpected contention of installation artifacts, such as when docker is holding onto ese.dll, users tend to close the installer abruptly which was leaving behind temporary files.</p> <p>Fix: Each subsequent run of the installer cleans temporary files of the current and previous runs.</p>
Windows 6.5.658.9590	Bug	Node may be blocked from coming up if FabricHost is started improperly during code upgrade	<p>Impact: During code upgrade nodes are rebooted when there is contention against installed files. In cloud deployment scenarios where customers are managing the startup pattern of FabricHost and are starting this service post-reboot, there may be cases where the second half of upgrade has not yet completed and the node becomes stuck in a limbo state where the new version bits are in the installation directory but old managed bits remain in GAC.</p> <p>Fix: The intended pattern is to start FabricInstallerService instead of FabricHost, so to resolve this issue FabricHost now checks if the upgrade is in the described intermediary state and if so, starts FabricInstallerService.</p>
Windows 6.5.658.9590	Feature	InstallFabric.ps1 should optionally install FabricInstallerSvc for XCopy deployments	<p>Brief desc: For XCopy installations, FabricInstallerService is now able to be set up through InstallFabric.ps1.</p> <p>How/When to Consume it: # Fresh install: .\InstallFabric.ps1 -AcceptEULA -FabricRuntimePackagePath .\MicrosoftServiceFabric.cab -SetupFabricInstallerService</p>

			<p># Supplementary install of FabricInstallerSvc on an environment that already has the runtime installed:</p> <p><i>.\InstallFabric.ps1 -AcceptEULA -FabricRootIsPreInstalled -SkipRuntimeInstallation -SetupFabricInstallerService</i></p> <p>New parameters for InstallFabric.ps1</p> <ul style="list-style-type: none">• -SkipRuntimeInstallation # When used in conjunction with FabricRootIsPreInstalled, can bypass runtime installation.• -SetupFabricInstallerService # Used to install FabricInstallerSvc
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Service Fabric Common Bug Fixes

Versions	Issue Type	Description	Resolution
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Bug	Dropping multiple replicas of one partition in the same run impacts cluster availability.	Impact: When reliability level of the cluster is downgraded and number of replicas for system services is reduced, it is possible that the cluster will enter a state where it is not responsive and where users cannot connect to it. Fix: Issue is fixed.

Service Fabric Explorer

Versions	Issue Type	Description	Resolution
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Bug	AAD silent sign on issue and white page when loading on an AAD cluster.	Impact: When attempting to view SFX on AAD cluster, an error page displaying a silent sign on request has failed and required clearing local cache data. Fix: Issue is fixed. GitHub Issue: https://github.com/microsoft/service-fabric-explorer/pull/202
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Bug	Accessibility compliance issues	Impact: SFX did not meet a high enough standard of usability for people with visual or physical disability/impairments. Fix: SFX now better adheres to WCAG standards. GitHub Issue: https://github.com/microsoft/service-fabric-explorer/pull/198
Ubuntu 6.5.460.1 Windows 6.5.658.9590	Feature	Increased usability and conveniences for Service fabric explorer	Brief desc: Copy to clipboard, unhealthy evaluation links, advanced mode toggle. Fix: <ul style="list-style-type: none"> Advanced mode toggle moves all but the 'restart' option for node actions behind this toggle being on. Copy to clipboard allows for easily getting difficult text from SFX. Unhealthy evaluation links will now make it easy to navigate to the affected entity in SFX. GitHub Issue: https://github.com/microsoft/service-fabric-explorer/pull/204 https://github.com/microsoft/service-fabric-explorer/pull/203 https://github.com/microsoft/service-fabric-explorer/pull/197

Repositories and Download Links

The table below is an overview of the direct links to the packages associated with this release.

Follow this guidance for setting up your developer environment:

- Linux: <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-get-started-linux>
- Mac: <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-get-started-mac>
- Windows: <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-get-started>

Area	Package	Version	Repository	Direct Download Link
Service Fabric Runtime	Ubuntu Developer Set-up	6.5.460.1	N/A	Cluster Runtime: https://apt-mo.trafficmanager.net/repos/servicefabric/pool/main/s/servicefabric Service Fabric SDK for local cluster setup: https://apt-mo.trafficmanager.net/repos/servicefabric/pool/main/s/servicefabricsdkcommon/ Container image: https://hub.docker.com/r/microsoft/service-fabric-onebox/

Area	Package	Version	Repository	Direct Download Link
	Red Hat Developer Set-up	6.1.189.1	N/A	<p>Cluster Runtime: https://packages.microsoft.com/yumrepos/microsoft-rhel7.4-prod/</p> <p>Service Fabric SDK for local cluster setup: https://packages.microsoft.com/yumrepos/microsoft-rhel7.4-prod/servicefabric_sdkcommon_1.1.2.rpm</p>
	Windows Developer Set-up	6.5.658.9590	N/A	https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftServiceFabric.6.5.658.9590.exe
Service Fabric for Windows Server	Service Fabric Standalone Installer Package	6.5.658.9590	N/A	https://download.microsoft.com/download/8/3/6/836E3E99-A300-4714-8278-96BC3E8B5528/6.5.658.9590/Microsoft.Azure.ServiceFabric.WindowsServer.6.5.658.9590.zip
	Service Fabric Standalone Runtime	6.5.658.9590	N/A	https://download.microsoft.com/download/B/0/B/B0BCCAC5-65AA-4BE3-AB13-D5FF5890F4B5/6.5.658.9590/MicrosoftAzureServiceFabric.6.5.658.9590.cab
.NET SDK	Windows .NET SDK	3.4.658	N/A	https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftServiceFabric.cSDK.3.4.658.msi
	Microsoft.ServiceFabric	6.5.658	N/A	https://www.nuget.org

Area	Package	Version	Repository	Direct Download Link
	Reliable Services and Reliable Actors <ul style="list-style-type: none"> • Microsoft.ServiceFabric.Services • Microsoft.ServiceFabric.Services.Remoting • Microsoft.ServiceFabric.Services.Wcf • Microsoft.ServiceFabric.Actors • Microsoft.ServiceFabric.Actors.Wcf 	3.4.658	https://github.com/Azure/service-fabric-services-and-actors-dotnet	https://www.nuget.org
	ASP.NET Core Service Fabric integration <ul style="list-style-type: none"> • Microsoft.ServiceFabric.Services.AspNetCore.* 	3.4.658	https://github.com/Azure/service-fabric-aspnetcore	https://www.nuget.org
	Data, Diagnostics and Fabric transport <ul style="list-style-type: none"> • Microsoft.ServiceFabric.Data • Microsoft.ServiceFabric.Data.Interfaces • Microsoft.ServiceFabric.Diagnostics.Internal • Microsoft.ServiceFabric.FabricTransport.Internal 	3.4.658	N/A	https://www.nuget.org
	Microsoft.ServiceFabric.Data.Extensions	3.4.658	N/A	https://www.nuget.org
Java SDK	Java SDK	1.0.5	N/A	https://mvnrepository.com/artifact/com.microsoft.servicefabric/sf-actors/1.0.5

Area	Package	Version	Repository	Direct Download Link
Visual Studio	Visual Studio 2017 Tools for Service Fabric	2.5.20608.1	N/A	Included in Visual Studio 2017 Update 7 (15.7) and above
	Visual Studio 2015 Tools for Service Fabric	2.5.20615.1	N/A	See localized download links below
Eclipse	Service Fabric plug-in for Eclipse	2.0.7	N/A	N/A
Yeoman	Azure Service Fabric Java generator	1.0.7	https://github.com/Azure/generator-azuresfjava	N/A
	Azure Service Fabric C# generator	1.0.9	https://github.com/Azure/generator-azuresfcsharp	N/A
	Azure Service Fabric guest executables generator	1.0.1	https://github.com/Azure/generator-azuresfguest	N/A
	Azure Service Fabric Container generators	1.0.1	https://github.com/Azure/generator-azuresfcontainer	N/A
CLI	Service Fabric CLI	8.0.0	https://github.com/Azure/service-fabric-cli	https://pypi.python.org/pypi/sfctl
PowerShell	AzureRM.ServiceFabric	0.3.15	https://github.com/Azure/azure-powershell/tree/preview/src/ResourceManager/ServiceFabric	https://www.powershellgallery.com/packages/AzureRM.ServiceFabric/0.3.15

Visual Studio 2015 Tool for Service Fabric – localized download links

NOTE: The below download links are for the 2.5.20615.1 release of Visual Studio 2015 Tools for Service Fabric.

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.de-de.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.en-us.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.es-es.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.fr-fr.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.it-it.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.ja-jp.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.ko-kr.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.ru-ru.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.zh-cn.msi>

<https://download.microsoft.com/download/F/9/3/F93AF848-BE1C-4790-8B24-32CF63BA8E86/MicrosoftAzureServiceFabricTools.VS140.zh-tw.msi>