

Microsoft Azure Service Fabric 6.4 Fifth 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>6.4.649.1</i>
	Windows	<i>6.4.654.9590</i>
	Red Hat Enterprise	<i>6.1.189.1</i>
Service Fabric for Windows Server	Service Fabric Standalone Installer Package	<i>6.4.654.9590</i>
.NET SDK	Windows .NET SDK	<i>3.3.654</i>
	Microsoft.ServiceFabric	<i>6.4.654</i>
	Reliable Services and Reliable Actors	<i>3.3.654</i>
	ASP.NET Core Service Fabric integration	<i>3.3.654</i>
Java SDK	Java for Linux SDK	<i>1.0.3</i>

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Upcoming Breaking change announcements in 6.5

Node state removal not supported for seed nodes by default

Starting in Service Fabric version 6.5, node state removal will not be supported for seed nodes by default. Specifically, invoking the following interfaces on seed nodes will fail.

- .NET API: [FabricClient.ClusterManagementClient.RemoveNodeStateAsync](#). The API will throw a [FabricException](#) when invoked for a seed node.
- PowerShell: [Remove-ServiceFabricNodeState](#)
- REST API: [Remove Node State](#)
- CLI: [sfctl node remove-state](#)

The following message will be included in the exception (for the .NET API) or displayed in the UI (for the other interfaces).

"Remove node state on node {NodeName} failed because it is a seed node. Remove node state is not allowed for seed node."

Users that have any code or scripts that invoke any of the above interfaces for seed nodes should update their code or scripts to avoid doing this. If node state removal for a seed node must be performed, then the recommendation is that users should first convert the seed node into a non-seed node and then remove the node state after the conversion is complete. Detailed guidance on converting seed nodes into non-seed nodes will be available with the release of Service Fabric version 6.5, when this change will take effect.

The reason for this change is as follows. A Service Fabric cluster requires a quorum of seed nodes to be up. If a quorum of seed nodes is not up, the cluster goes down. Node state removal erases the node from the databases of all Service Fabric system services, including the health management service. As a result, when the node state is removed, the health management service removes all the error events associated with that node. This includes the error event which previously notified the user that a seed node in the cluster is down. Therefore, the down seed node remains unnoticed and the cluster to appear healthy even though it is not. For this reason, node state removal of seed nodes will be disallowed.

A cluster configuration will be available for users who want the non-default behavior that enables node state removal for seed nodes. Details about this cluster configuration will be available with the release of Service Fabric version 6.5.

Service Fabric Runtime

Versions	IssueType	Description	Resolution
Windows 6.4.654.9590 Ubuntu 6.4.649.1	Bug	Deletion of application code packages from a node leaves local ImageCache in an error state.	Impact: This could potentially lead to Service Fabric assuming a package is intact when it's partially deleted. These packages would have to be repaired on the node manually by either copying the missing files to the node or deleting the corrupted content. Fix: Service Fabric will now mark the package as invalid by deleting its corresponding checksum first, forcing the package to be re-downloaded if it's used again. This ensures re-provisioning of app code packages are intact.
Ubuntu 6.4.649.9590	Bug	NET Core 2.1 application fails to start on Linux (Ubuntu) cluster GitHub issue: https://github.com/Azure/service-fabric-issues/issues/1178	Workaround: Remove LD_LIBRARY_PATH specification. Fix: Fixed by preventing multiple entries of LD_LIBRARY_PATH when launching processes on Linux.
Ubuntu 6.4.649.9590	Feature	Developers were unable to use same service manifest to deploy to Linux clusters.	Impact: We allowed only the serviceName to be mentioned in the serviceManifest's exeHost for Windows clusters. Fix: Service Manifest would allow "serviceName" also instead of only "serviceName.exe" in the exeHost for windows cluster. Also, the application package validation will ensure that the "serviceName.exe" file is indeed present at that location.
Ubuntu 6.4.649.1	Bug	Linux Container setup: Switch from docker-ce to moby	Service Fabric for Ubuntu runtime installer is no longer depending on docker-ce and is migrating to use moby-engine and moby-cli packages for docker operations.

Service Fabric Common Bug Fixes

Versions	Description	Resolution
Ubuntu 6.4.649.1 Windows 6.4.654.9590	Increased number of reboots occurring during cluster upgrade to handle contention with service fabric runtime files.	Reduced occurrence rate of reboots during cluster upgrade for user-induced cases.
Ubuntu 6.4.649.1 Windows 6.4.654.9590	Node crashes during Service Fabric cluster upgrade due to old version files not being cleaned properly.	Performs a reboot gracefully by scheduling a cleanup operation instead of node crash during upgrade scenarios
Windows 6.4.654.9590	Installer service crashes during Service Fabric code upgrade due to old version files not being cleaned properly.	Provides a fallback mechanism to self-repair instead of crashing. Performs a reboot gracefully by scheduling a cleanup operation during code upgrade scenarios
Windows 6.4.654.9590	When upgrade is experiencing some trouble and requires restarts then VMSS machines are being rebooted for Windows updates	Fixed a stability issue for a deployment component for scenarios where it may be terminated early.

Service Fabric JAVA SDK Fixes

Versions	Issue Type	Description	Resolution
JAVA SDK 1.0.3	Bug	API that reports load for stateless/stateful service partitions crashes for Java workloads	Fixed service code to be able to report load on the partition. Impact was for Java workloads using reportLoad API

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	6.4.649.1	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/servicefabric-sdkcommon/ Container image: https://hub.docker.com/r/microsoft/service-fabric-onebox/
	Red Hat Developer Set-up	6.1.189.1	N/A	Cluster Runtime: https://packages.microsoft.com/yumrepos/microsoft-rhel7.4-prod/ Service Fabric SDK for local cluster setup: https://packages.microsoft.com/yumrepos/microsoft-rhel7.4-prod/servicefabric_sdkcommon_1.1.2.rpm
	Windows Developer Setup	6.4.654.9590	N/A	https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftServiceFabric.6.4.654.9590.exe
Service Fabric for Windows Server	Service Fabric Standalone Installer Package	6.4.654.9590	N/A	https://download.microsoft.com/download/8/3/6/836E3E99-A300-4714-8278-96BC3E8B5528/6.4.654.9590/Microsoft.Azure.ServiceFabric.WindowsServer.6.4.654.9590.zip

	Service Fabric Standalone Runtime	6.4.654.9590	N/A	https://download.microsoft.com/download/B/0/B/B0BCCAC5-65AA-4BE3-AB13-D5FF5890F4B5/6.4.654.9590/MicrosoftAzureServiceFabric.6.4.654.9590.cab
.NET SDK	Windows .NET SDK	3.3.654	N/A	https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftServiceFabricSDK.3.3.654.msi
	Microsoft.ServiceFabric	6.4.654	N/A	https://www.nuget.org
	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 	3.3.654	https://github.com/Azure/servicefabric-services-and-actors-dotnet	https://www.nuget.org
	ASP.NET Core Service Fabric integration <ul style="list-style-type: none"> • Microsoft.ServiceFabric.Services.AspNetCore.* 	3.3.654	https://github.com/Azure/servicefabric-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 	3.3.654	N/A	https://www.nuget.org

	Microsoft.ServiceFabric.FabricTransport.Internal			
	Microsoft.ServiceFabric.Data.Extensions	1.4.654	N/A	https://www.nuget.org

Area	Package	Version	Repository	Direct Download Link
Java SDK	Java SDK	1.0.3	N/A	https://mvnrepository.com/artifact/com.microsoft.servicefabric/sf-actors/1.0.3
Visual Studio	Visual Studio 2017 Tools for Service Fabric	2.4.11024.1	N/A	Included in Visual Studio 2017 Update 7 (15.7) and above
	Visual Studio 2015 Tools for Service Fabric	2.4.11116.1	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	7.1.0	https://github.com/Azure/servicefabric-cli	https://pypi.python.org/pypi/sfctl
PowerShell	AzureRM.Service Fabric	0.3.15	https://github.com/Azure/azurepowershell/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 2.4.11116.1 release of Visual Studio 2015 Tools for Service Fabric.

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.de-de.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.en-us.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.es-es.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.fr-fr.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.it-it.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.ja-jp.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.ko-kr.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.ru-ru.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.zh-cn.msi>

<https://download.microsoft.com/download/8/5/A/85A670E8-47DB-4FAF-A63A-8E89B6284220/MicrosoftAzureServiceFabricTools.VS140.zh-tw.msi>