

From upstream to product

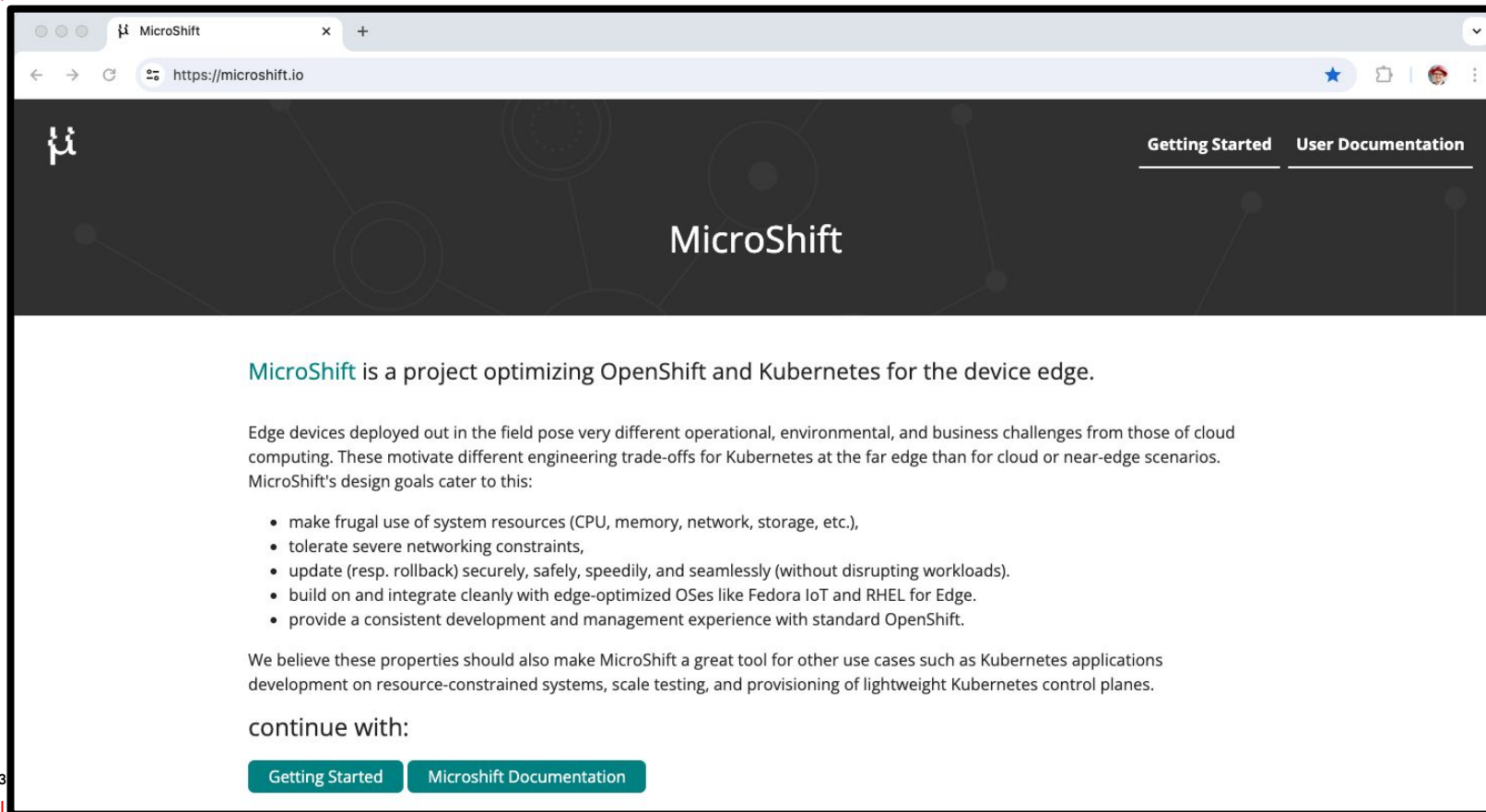
A travel report

Daniel Fröhlich
Principal Product Manager OpenShift Edge

Your Mission, should you choose to accept it, is



Take this....



The image shows a browser window with the URL <https://microshift.io>. The page features a dark header with the MicroShift logo on the left and navigation links for "Getting Started" and "User Documentation" on the right. The main content area has a white background and contains the following text:

MicroShift is a project optimizing OpenShift and Kubernetes for the device edge.

Edge devices deployed out in the field pose very different operational, environmental, and business challenges from those of cloud computing. These motivate different engineering trade-offs for Kubernetes at the far edge than for cloud or near-edge scenarios. MicroShift's design goals cater to this:

- make frugal use of system resources (CPU, memory, network, storage, etc.),
- tolerate severe networking constraints,
- update (resp. rollback) securely, safely, speedily, and seamlessly (without disrupting workloads).
- build on and integrate cleanly with edge-optimized OSes like Fedora IoT and RHEL for Edge.
- provide a consistent development and management experience with standard OpenShift.

We believe these properties should also make MicroShift a great tool for other use cases such as Kubernetes applications development on resource-constrained systems, scale testing, and provisioning of lightweight Kubernetes control planes.

continue with:

[Getting Started](#) [Microshift Documentation](#)

.... and turn it into this:

The image shows two browser windows. The left window displays the Red Hat Device Edge product page, which includes a navigation menu, a breadcrumb trail (Home > Products > Red Hat Device Edge), a main heading 'Red Hat Device Edge', a descriptive paragraph, and two call-to-action buttons: 'See buying options' and 'Talk to a Red Hatter'. Below this is a section titled 'What is Red Hat Device Edge?' with two paragraphs of text. The right window shows the 'Product Documentation for Red Hat build of MicroShift 4.15' page. It features a navigation bar with 'Subscriptions', 'Downloads', 'Red Hat Console', and 'Get Support'. The main content area has a breadcrumb trail (Products & Services > Product Documentation > Red Hat build of MicroShift > 4.15) and a title 'Product Documentation for Red Hat build of MicroShift 4.15'. On the left side of the documentation page, there are filters for 'PRODUCT' (Red Hat build of MicroShift), 'PRODUCT VERSION' (4.15 selected), 'CATEGORY' (Getting Started, Installing, Configuring, etc.), and 'LANGUAGE' (English). The right side of the page lists document sections: 'Getting Started' (About, Getting started, Release notes), 'Installing' (Installing), and 'Configuring' (Configuring). Each section has an 'Available Formats' link. At the bottom of the right window, a chat bubble says 'Hey there. What can I help you with today?' next to a Red Hat logo icon with a notification badge.

Red Hat Device Edge

redhat.com/en/technologies/device-edge

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Home > Products > Red Hat Device Edge

Red Hat Device Edge

Red Hat® Device Edge provides operational consistency across workloads and devices, no matter where they are deployed.

[See buying options](#) [Talk to a Red Hatter](#)

What is Red Hat Device Edge?

Devices at the far edge need a different approach. Edge devices such as assembly line tools, IoT gateways, points of sale, and industrial controllers have to operate with limited computing resources, power, cooling, and connectivity. They can also be hard to access, or in settings with little or no on-site technical expertise.

Red Hat Device Edge is a flexible platform that consistently supports different workloads across small, resource-constrained devices at the farthest edge.

Product Documentation for Red Hat build of MicroShift 4.15

Subscriptions Downloads Red Hat Console Get Support

Red Hat Customer Portal Products Knowledge Security Support

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Products & Services > Product Documentation > Red Hat build of MicroShift > 4.15

Product Documentation for Red Hat build of MicroShift 4.15

Select

PRODUCT

- Red Hat build of MicroShift
- [View Another Product](#)

PRODUCT VERSION

- 4.15
- 4.14
- 4.13
- 4.12

CATEGORY

- Getting Started
- Installing
- Configuring
- Updating
- Running Applications
- Reference
- Troubleshooting

LANGUAGE

English

Getting Started

- [About](#) [Available Formats](#)
- Introduction to MicroShift
- [Getting started](#) [Available Formats](#)
- Getting started with MicroShift
- [Release notes](#) [Available Formats](#)
- Highlights of what is new and what has changed with this MicroShift release

Installing

- [Installing](#) [Available Formats](#)
- Installing and configuring MicroShift clusters

Configuring

- [Configuring](#) [Available Formats](#)
- Configuring MicroShift

Red Hat Device Edge Overview. [View](#)

Hey there. What can I help you with today?

It's a long journey



~1.5y from “go decision” to product GA

04/21: First commit of MicroShift to github by CTO team

03/22: Decision to productise MicroShift

07/22: Team identified and fully on-boarded

09/22: Final approval of product name by brand and legal: the child has a name!

10/22: First private beta binaries delivered to early access program customers

01/23: V4.12 Developer Preview Release (aka Alpha)

03/23: Red Hat Prod Security wakes up

05/23: V4.13 Technology Preview Release (aka Beta)

11/23: V4.14 General Availability Release, incl. CNCF certification

You dont want to travel
alone



↖
You
are
here!

AR

TL

PxE

ENG

QE

PgM

PM

DOCs

CEE

TM

Means of transportation?



Means of transportation - Tooling

The screenshot displays the OpenShift CI tooling interface. The main window shows a table of test runs for the 'MicroShift Acceptance MicroShift' suite. The table includes columns for ID, Title, Iteration, Test Result, Executed by, Executed, Duration, and Defect. A detailed view of test run OCP-62040 is shown below the table, detailing the steps and expected results.

ID	Title	Iteration	Test Result	Executed by	Executed	Duration	Defect
OCF-62040	[USHIFT-863] - Change GREENBOOT_WATCHDOG_GRACE_PERIOD						
OCF-61988	[USHIFT-863] - GRUB and manually selecting boot option					9m22s	
OCF-61987	[USHIFT-863] - Populate MICROSHIFT_WAIT_TIMEOUT_SEC with invalid string					7m12s	
OCF-61986	[USHIFT-863] - Change MICROSHIFT_WAIT_TIMEOUT_SEC with integer					16m20s	
OCF-61985	[USHIFT-863] - Change GREENBOOT_WATCHDOG_CHECK_ENABLED					8m27s	
OCF-61984	[USHIFT-863] - Change GREENBOOT_MAX_BOOT_ATTEMPTS					49m56s	
OCF-62547	verify etcd quota size is configurable					2h49m18s	
OCF-66813	Provide command to restore the backup					45m15s	
OCF-66816	Verify manual backup and restore commands work					3h3m3s	
OCF-66883	When system is red due to failed backup, subsequent boots (including rollbacks)					2h55m29s	
OCF-66880	Check output of sudo journalctl -o cat -u greenboot-healthcheck for error messages					24m11s	
OCF-66822	When system is rolled back manually, MicroShift makes a backup of current state					1h27m2s	
OCF-66820	When MicroShift's prerun fails causing an unhealthy system, failure reason should be reported					3h10m1s	
OCF-61621	[USHIFT-863] - MicroShift Greenboot handles Service Failure					28m21s	

Step	Step Description	Duration
1	Add line GREENBOOT_WATCHDOG_GRACE_PERIOD to /etc/greenboot/greenboot.conf Create the file /etc/greenboot/greenboot.conf if it does not exist GREENBOOT_WATCHDOG_GRACE_PERIOD=1	3h10m1s
2	Reboot	28m21s
3	Check sudo journalctl -o cat -u greenboot-healthcheck grep skipping	48m19s

Expected Result: output should be:
No watchdog on the system, skipping check

Support Team should submit such requests at the #forum-ocp-microshift public Slack channel.
When such a request is posted, an Engineer or QE will follow-up on the support case as described in the following section.

Crossing Borders

Red Hat Device Edge - Export Authorization Request Form (EARF) ☆ ↻ ☁

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Outline

Export Authorization Request Fo...

- 1. PRODUCT DETAILS
- 2. PRE-GA RELEASE(S)
- 3. GA RELEASE
- 4. ENCRYPTION
- 6. SUBMIT FORM

6(a). Minor Releases - Submit U...

DEFINITIONS & EXAMPLES

Key terms

FAQs

EARF Red Hat Device Edge | 4.x

1

Export Authorization Request Form (EARF)

- 1. PRODUCT DETAILS
- 2. PRE-GA RELEASE(S)

2

3

RED HAT, INC. U.S. EXPORT INFORMATION

PRODUCT AND TECHNOLOGY MATRIX

Encryption Registration Number: R101995

Product Name	ECCN	License Exception	CCATS
Red Hat Device Edge	5D002.c.1	ENC Unrestricted 740.17(b)(1)	N/A
Red Hat Enterprise Linux 9.x Includes <u>all</u> versions of RHEL 9 Includes <u>all</u> RHEL 9 add-ons	5D992.c	Mass Market 740.17(b)(1)	G189653
Red Hat Enterprise Linux 8.x Includes <u>all</u> versions of RHEL 8 Includes <u>all</u> RHEL 8 add-ons	5D992.c	Mass Market 740.17(b)(1)	G178356

Product managers, Program managers, and sometimes Engineers

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**THERE ARE ONLY 2 HARD
COMPUTER SC**

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RRORS

Proposed names
Red Hat Edge Device
Red Hat Endpoint
Red Hat Device Edge
Red Hat Edge Platform
Red Hat EdgeShift
Red Hat Open Edge
Red Hat Remote
Red Hat EdgeCase
Red Hat Perimeter
Red Hat LiteShift
Red Hat OuterShift
Red Hat Exos
Red Hat Exo Shift
Red Hat Verge
Red Hat Outside
Red Hat Flex or FlexShift
Red Hat NearShift
Red Hat Field Edge
Red Hat Micro Edge
Red Hat Nano
Red Hat Fringe
Red Hat Expanse



RH-SDL Runbook

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 - Definition of done
- Implementation
 - Incident Response
 - Definition of done
 - Manifesting and Software Bill of Materials (SBOM)
 - Definition of done
 - Secure Development Training
 - How to Do It
 - Definition of done
 - Threat Model
 - Definition of Done - SD Elements (SDE)
 - Definition of Done - High Level Threat Model
 - SAST (Static Application Security Testing)
 - Definition of done
 - DAST (Dynamic Application Security Testing)
 - Definition of done
 - Malware Detection
 - Definition of Done
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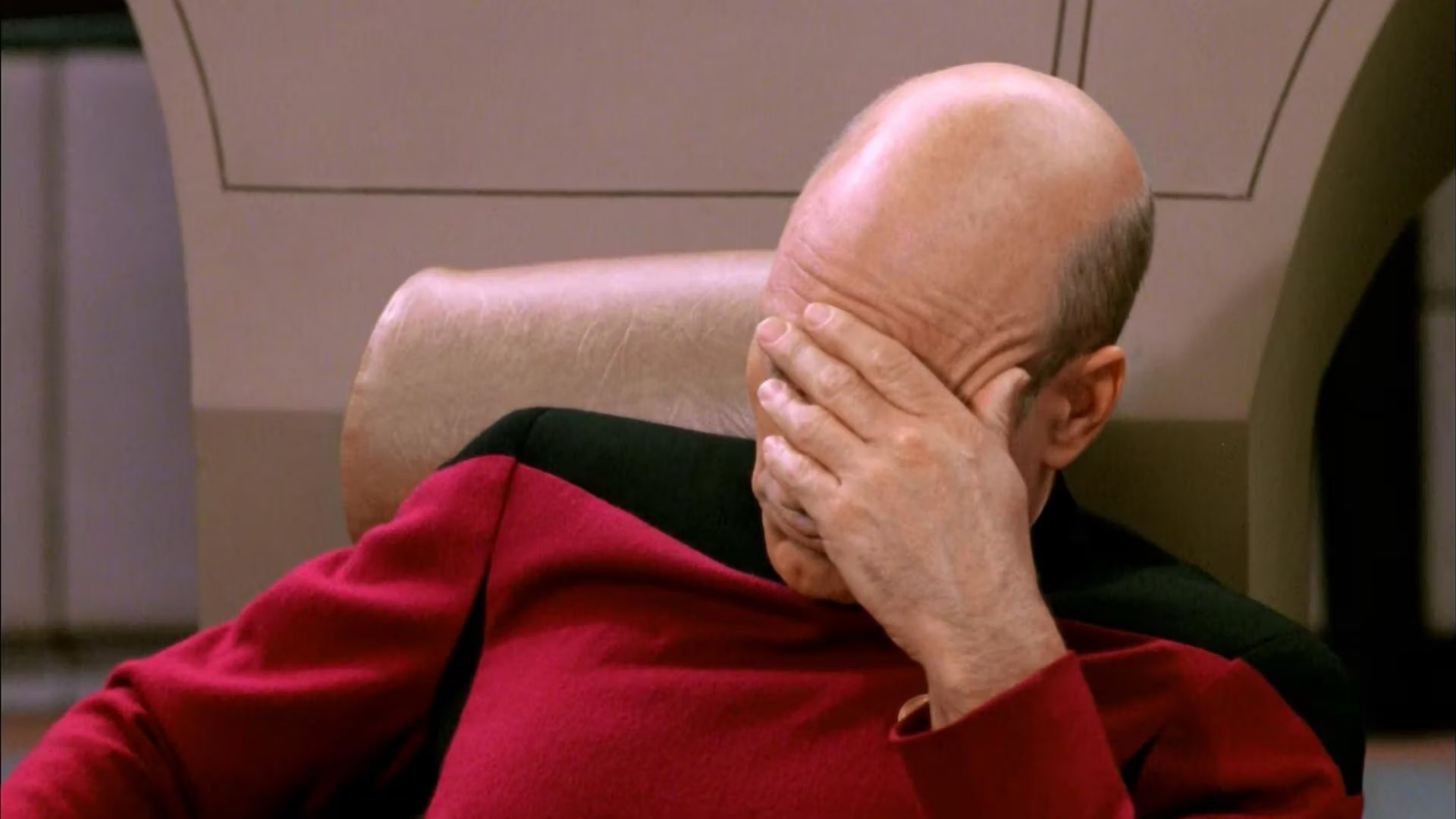
DanielF 6 months ago

I have trouble upgrade from ocp repos:

```
[root@ushift1 ~]# dnf --refresh update microshift
Updating Subscription Management repositories.
Red Hat OpenShift Container Platform 4.14 for RHEL 9 x86_64 (RPMs)
7.1 kB/s | 4.0 kB    00:00
Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
8.3 kB/s | 4.1 kB    00:00
Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
9.4 kB/s | 4.5 kB    00:00
Fast Datapath for RHEL 9 x86_64 (RPMs)
8.6 kB/s | 4.0 kB    00:00
```

```
Problem: cannot install the best update candidate for package microshift-4.14.0~rc.7-
```

```
- nothing provides microshift-greenboot = 4.14.0 needed by microshift-4.14.0-202310261440.p0.g1586504.assembly.4.14.0.el9.x86_64
```







Thank you

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