



Arm SystemReady Requirements Specification v1.0



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Release information

The Change History table lists the changes made to this document.

Table 1-1 Change History

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1 INTRODUCTION

Systems that are designed to “just work” for the end user (with the ability to install and run generic off-the-shelf operating systems out-of-the-box) need to follow a set of minimum hardware and firmware requirements need to be followed.

For hardware, the Arm SystemReady Program defines a common BSA (Base System Architecture) specification and a set of market specific supplements. For example, SBSA (Server Base System Architecture) supplement specification is for the server segment. The common BSA contains only the bare minimum requirement to deploy an operating system. The BSA is a baseline and, as such, there is no limit on differentiation and special features that can be built atop the base platform, per the market need.

For firmware, the program has added additional boot recipes to accommodate the different standards and implementations that are used in a broader ecosystem. These recipes are described in the BBR (Base Boot Requirements) specification.

This specification describes the requirements for Arm SystemReady program.

2 ARM SYSTEMREADY PROGRAM

For Arm SystemReady program, different market segments may target different sets of operating systems and hypervisors with different hardware and firmware requirements. The term “band” is used to identify these differences with a shorthand notation for each band-- SR (ServerReady), LS (LinuxBoot ServerReady), ES (Embedded ServerReady) and IR (IoT Ready).

SystemReady SR is technically identical to ServerReady and continues to bring the exact same benefits to the Arm server ecosystem. The additional bands in SystemReady (LS, ES and IR) are designed to serve the needs of a broader silicon and software ecosystem. We are defining the bands in consultation with our partners and expect that all operating system distributions will find a band that adequately captures their basic requirements for a standards-based Arm platform.

All SystemReady bands are supported by a common ACS (Architectural Compliance Suite) that is modular, to support testing against different combinations of specifications required by a SystemReady band.

| Certification | Description | Specifications | | |
|----------------|------------------------|----------------|------|------|
| SystemReady SR | ServerReady | BSA | SBSA | SBBR |
| SystemReady LS | LinuxBoot Server Ready | BSA | SBSA | LBRR |
| SystemReady ES | Embedded Server Ready | BSA | - | SBBR |
| SystemReady IR | IoT Ready | BSA | - | EBBR |

SystemReady ES and IR (for 64-bit) have the same hardware requirements. SystemReady IR requires the reduced set of UEFI interfaces specified in the EBBR specification. SystemReady ES requires ACPI interfaces in addition to the UEFI interfaces. Systems that are certified as SystemReady ES meet the requirements for SystemReady IR. There is no need for these systems to be certified as SystemReady IR. Similarly, SystemReady SR requires SBSA compliance and more stringent UEFI and ACPI requirements. Systems that are certified as SystemReady SR meet the requirements for SystemReady ES and IR. There is no need for these systems to be certified as SystemReady ES or IR.

A 32-bit system can be certified as SystemReady IR if it supports the EBBR specification. However since BSA specification does not cover 32-bit systems, we will list the 32-bit systems separately from the 64-bit systems on the Arm SystemReady System Compatibility List.



2.1 SystemReady SR Certification

2.1.1 SystemReady SR V2.0 Requirements (Oct 2020)

- Enterprise ACS 2.5 test results
- BSA v1.0 + SBSA Supplement v6.1, or SBSA v6.0
 - Level 3-5
- BBR v1.0 (SBBR) or SBBR v1.1
- OS installation logs
 - WinPE required
 - VMware ESXi recommended
 - Choose 2 Linux distros based on heritage and page size (e.g., RHEL and Ubuntu)
 - Heritage: RHEL/Fedora/CentOS, or SLES/openSUSE or Ubuntu/Debian, or NetBSD/OpenBSD/FreeBSD
 - Page size: 64K (RHEL, CentOS, etc.), 4K (Ubuntu, Fedora, etc.)

2.2 SystemReady ES Certification

2.2.1 SystemReady ES V1.0 Requirements (Oct 2020)

- Enterprise ACS 2.5 test results
- BSA v1.0, or SBSA v6.0 Level 3 (minus server features)
- BBR v1.0 (SBBR), or SBBR v1.1 w/exceptions
- OS installation logs
 - WinPE recommended
 - VMware ESXi recommended
 - Choose 2 Linux distros based on heritage and page size (e.g., RHEL and Ubuntu)
 - Heritage: RHEL/Fedora/CentOS, or SLES/openSUSE, or Ubuntu/Debian, or NetBSD/OpenBSD/FreeBSD
 - Page size: 64K (RHEL, CentOS, etc.), 4K (Ubuntu, Fedora, etc.)

2.2.2 SystemReady ES V2.0 Tentative Requirements (Future)

- ACS-ES (future) test results
- BSA v1.0
- BBR v1.0 (SBBR)
- OS installation logs
 - WinPE required
 - VMware ESXi required
 - Choose 2 Linux distros based on heritage and page size (e.g., RHEL and Ubuntu)
 - Heritage: RHEL/Fedora/CentOS, or SLES/openSUSE, or Ubuntu/Debian, or NetBSD/OpenBSD/FreeBSD



- Page size: 64K (RHEL, CentOS, etc.), 4K (Ubuntu, Fedora, etc.)

2.3 SystemReady IR Certification

2.3.1 SystemReady V1.0 Tentative Requirements (Future)

- ACS-IR (future) test results
- BSA v1.0
 - No BSA requirement for 32-bit
- BBR v1.0 (EBBR)
- OS installation logs
 - Two major Linux distros
 - Recommended list:
 - Fedora, Debian, Ubuntu, openSUSE

3 SYSTEMREADY OPT-IN EXTENSIONS

3.1 Pre-silicon Certification

Arm SystemReady Pre-silicon Certification is an option for the silicon partners.

3.2 Security Option

The Arm SystemReady Program provides a “Security Option” for devices that are compliant to the UEFI Secure Boot and Firmware Update via Capsule Update services. The requirements are specified in the BBSR (Base Boot Security Requirements) specification.

3.2.1 V1.0 Tentative Requirements (Future)

- ACS (future) test results
- BBSR v1.0