OpenGCC

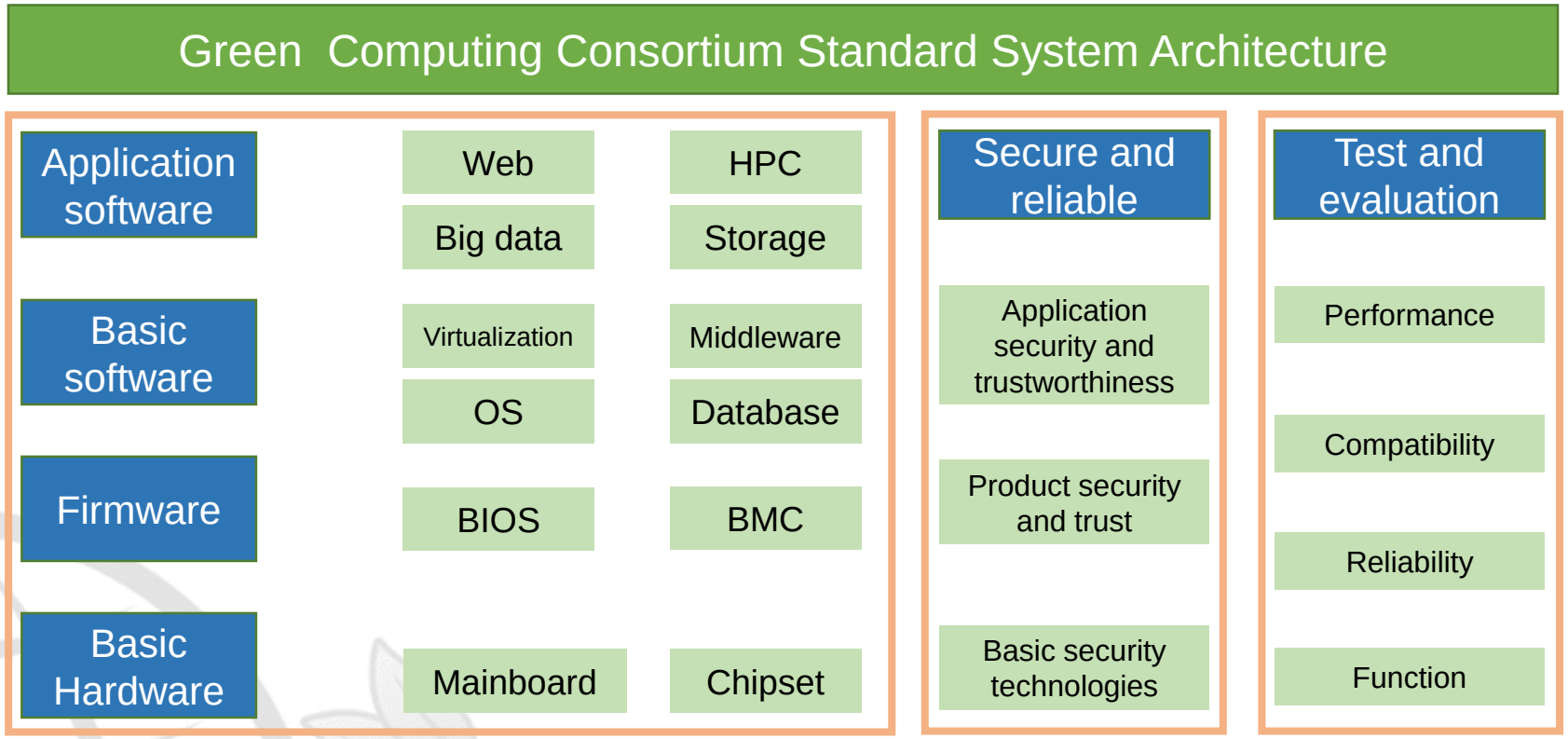
Accelerated Development, Groundbreaking Innovation, and Prosperous Ecosystem

Green Computing Consortium Standard Progress

Contents

Green Computing Consortium Standard System Architecture

- GCC gathers mainstream chip vendors to develop and introduce the secure and independent full-stack interface standards and protocols for the Arm computing system.
- Develop alliance standards and scenario-based test specifications, and perform assessment



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Green Computing Consortium Standard Overview

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Security and Trustworthiness

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Whitepaper

- Green Computing Server Confidential Computing Security White Paper

The standards above have passed the expert review on November 12th 2020, and would publish at Green Computing Industrial Summit 2020 on November 26th ,2020

Green Computing Consortium Standard Progress

Security and Trustworthiness

- Trustworthiness Techniques Requirement for Green Computing Server

Initiated by:
China Electronic Technology Standardization Research Institute

Co-sponsors:
Huawei ,Phytium, Arm and Ampere

Stakeholders:
Chip vendor, firmware vendor, and server vendor

Purpose:
Provide guidance for system vendors to design, develop, and produce reliable server products, provides a reference for customers to select products, enhances customers' trust in green computing servers.

Scope:
Specify the technical requirements for server trustworthiness, including product trustworthiness function requirements and trustworthiness assurance requirements.

Green Computing Consortium Standard Progress

Firmware

- Trustworthiness Techniques Requirement for Green Computing Server

Initiated by:
China Electronic Technology Standardization Research Institute

Co-sponsors:
Huawei ,Phytium, Arm and Ampere

Stakeholders:
CPU, OS, BIOS and server vendor

Purpose:
Guide the development direction of the server BIOS, introduces advanced technical concepts, and is compatible with international standards. Reflect customers' requirements on servers and improves the competitiveness of green computing products.

Scope:
Specify the requirements for server BIOS functions, security, reliability, performance, and power consumption management, and interfaces for chip management, board-level management, and peripheral management.

Green Computing Consortium Standard Progress

Firmware

- Technical Requirements for Server BMC

《绿色计算服务器系统管理技术要求》

通过立项评审

Initiated by:
China Electronic Technology Standardization Research Institute

Co-sponsors:
Huawei ,Phytium, Arm and Ampere

Stakeholders:
CPU, OS, BIOS , BMC and server vendor

Purpose:
The BMC is a core component for server hardware management. It provides core functions such as remote management, monitoring, and diagnosis, and plays an important role in efficient data center O&M

Scope:
Specify the management, security, reliability, and performance requirements of the server system, and the software and hardware management interfaces involved in hardware management, chip management, and board-level management.

Green Computing Consortium Standard Progress

Whitepaper

- Green Computing Server Confidential Computing Security White Paper

Initiated by:
China Electronic Technology Standardization Research Institute

Co-sponsors:
Huawei ,Phytium, Arm and Ampere

Stakeholders:
Chip vendor , firmware vendor and server vendor

Purpose:
Provide guidance for device vendors to design, develop, and produce confidential computing servers, promote interconnection and adaptation issues during confidential computing R&D, promote industry consensus on confidential computing security.

Scope:
This white paper describes the reference architecture, security requirements, key technologies, standards, and typical application scenarios of server confidential computing. It provides developers with a guide to secure development and application in the TEE.

Contents

Green Computing Consortium Server Evaluation Specifications by Scenario

Purpose:
Show the computing performance advantages of ARM servers, promote user awareness, and promote market use.

Use standards and evaluations to demonstrate the advantages of ARM servers in typical data center application scenarios (including big data, storage, HPC, and web applications).

The evaluation scenarios and test specifications collaborate with ARM servers for commercial expansion and iteration, promote industry solution replacement, and build green computing scenario-specific test benchmarks and tools.

Main scenarios:
Big Data、Distributed Storage、HPC、Web Application

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Thank you.