

The ATCA Interoperability Challenge

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Interoperability

- Ability to Interoperate, to work together

- Give confidence that the ...
 - Blades function in the racks and the Racks can support the blades
 - At the required performance levels
 - For Manageability, Thermally, Transport

- Freedom of Choice

ATCA Eco-system

- ATCA provides a flexible framework
 - Perhaps to flexible in some areas
 - Different interpretation
- Allows for multiple vendors, multiple products
 - Different design rules

Manageability Interoperability

ATCA Specification Requirement

“If the Shelf Manager receives a Bused Resource Control (Relinquish) command from a Board that is not controlling the bus, the Shelf Manager **should** send an Error Status.”

Source PICMG

Implementation Vendor A

No error status sent
Bus can be relinquished by
another board

Implementation Vendor B

Error Status sent
Same front board may not work

Interoperability Solution

Requirement would be stated as “Shelf manager **shall** send an Error Status”

The Customer View

- Choose ATCA for the Eco-System
 - Cost, flexibility, 2nd sourcing etc
- Select a set of vendors
 - Rack (Fans, ShMC), Blades, Modules
- Plug them all together, And switch it on

- They want them to function together with the least amount of risk/work/effort

So what needs to be done ...

- Repeatabile & Consistent set of tests
(the spec does not tell you how to test it)
- Eco-system compliance
- Create tools to automate the testing
 - Allows interoperability testing to start early in the design cycle
- Reduction in the variation/variance
 - Customers defining what they want



Communications Platforms Trade Association

Founding Sponsors



Sponsors



Contributors



Trusted ePlatform Services



Communications Platforms Trade Association (CP-TA)



- Industry Trade association
- Formed to bridge the “Interoperability Chasm”
- To develop testing procedures and tools to aid interoperability
- To promote the xTCA Eco-System

CP-TA

- Interoperability Compliance Document
 - Foundation document for the CP-TA Certification Program
 - Defines objective and verifiable interoperability criteria
- Test Procedure Manual
 - Provides the test procedures building block compliance to ICD requirements
 - 1:1 mapping between the ICD and TPM
- Covers the following for AdvancedTCA:
 - Thermal
 - Manageability
 - Data Transport

CP-TA Certification levels

- **Tested to CP-TA v1.1**
 - A subset or all of the mandatory tests for certification are performed on the Device Under Test (DUT) and the standardized CP-TA test report is completed stating the results of the tests: pass, fail, or not executed.

- **Compliant to CP-TA v1.1**
 - All of the mandatory tests for certification are performed on the DUT with a 100% pass rate using CP-TA authorized test tools and the standardized CP-TA test report is completed. Note: For this level, all of the mandatory tests are required to be performed and all of them are required to be passed by the DUT. This level does require a CP-TA authorized test tool be used to execute the test procedures. This level can be obtained by the DUT provider executing the required tests.

- **Certified to CP-TA v1.1**
 - All of the mandatory tests for certification are performed on the DUT by a CP-TA authorized testing service with a 100% pass rate and the standardized CP-TA test report is completed by the same CP-TA authorized testing service confirming this result. Note: For this level, all of the mandatory tests are required to be performed and all of them are required to be passed by the DUT. This level requires a CP-TA authorized service to execute the test procedures and validate the results.

SCOPE

- SCOPE Sponsor members
 - Alcatel-Lucent, Ericsson, Huawei, Motorola, NEC, Nokia Siemens Networks and Nortel.
- Works to “enable and promote” open carrier grade platforms
- Open carrier grade platforms consist of
 - Based on Commercial off the shelf products
 - Hardware/Software and open source building blocks
- Promotes Interoperability to enable the development of these platforms

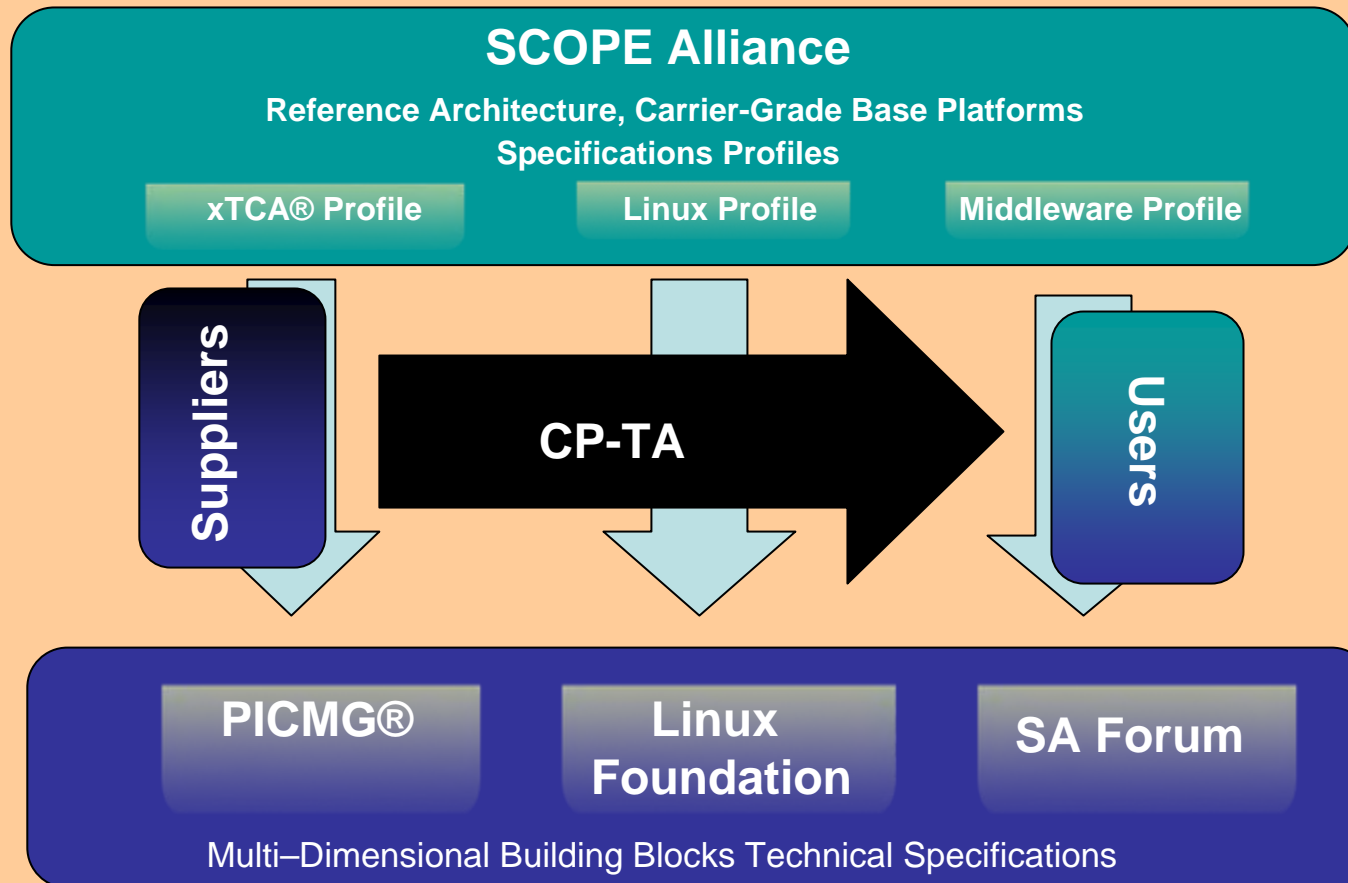
SCOPE Output

- Profiles specifications in relation to Network Equipment needs
- Identifies gaps within the specifications
- Provides clarifications on requirements
- Focuses the flexibility of the specification
- Profiles made available free of charge

SCOPE profiles

- **New:** [Environmental Profile: Central Offices and Network Data Centers Centers](#) (pdf)
- **New:** Virtualization Profiles
 - **New:** [Virtualization: Requirements](#) (pdf)
 - **New:** [Virtualization: State of the Art](#) (pdf)
 - **New:** [Virtualization: Use Cases](#) (pdf)
- [SCOPE ATCA Profile v1.0](#) (pdf)
- [SCOPE ATCA Profile v2.0](#) (pdf)
- [SCOPE Linux Profile v1.0](#) (pdf)
 - [SCOPE Linux Profile v1.1](#) (pdf)
 - [SCOPE Linux Profile v1.2](#) (pdf)
- [SCOPE Carrier Grade Operating Systems Gap Analysis v2.0](#) (pdf)
- [SCOPE Carrier Grade Middleware Profile v1.0](#) (pdf)
- [SCOPE Carrier Grade Middleware Profile v2.0](#) (pdf)
- [Mapping Java EE to SAForum Specifications: A NEP Perspective v1.0](#) (pdf)
- [SCOPE AdvancedMC Profile v1.0](#) (pdf)
- [SCOPE MicroTCA Profile v1.0](#) (pdf)
- [SCOPE AMC Port Map Gap-Analysis v1.0](#) (pdf)
- [Services and Support Profile - Service Availability v1.0](#) (pdf)
- [Services and Support Profile - Long Life](#)

Mountain View Alliance Coordinated Marketing



As an Example

- Centellis 4620 ATCA platform
 - ATCA 16 slot 10Gbs platform
 - Fans, ShMCs, Switch Blades, and ATCA Blades
- Tested using the CP-TA TPM tests
- Fully compliant to CP-TA ICD requirements
- Meets the B.4 Thermal level CP-TA requirements

Conclusion

- Interoperability is key
- SCOPE & CP-TA providing the guidance
- Eco-system viability
- Time to market/Risk reduction
- Confidence in capabilities

- Giving Customers Freedom of Choice