PICMG® 3.7 Revision 1.0
AdvancedTCA® Base Extensions Specification

Engineering Change Notice

ECN 3.7-1.0-001

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Foreword: Adding IPv6 awareness to PICMG 3.7

Description

¶1 The focus of this ECN is to add IPv6 awareness to the PICMG 3.7 R1.0 specification. The basic change is to revise PICMG 3.7 so that its base document is PICMG 3.0 R3.0 as amended by ECN 3.0-3.0-001, instead of the original PICMG 3.0 R3.0. As a result of this change, the revised PICMG 3.7 inherits the IPv6 awareness added to PICMG 3.0 by ECN 3.0-3.0-001. This ECN is the work of the Hardware Platform Management subcommittee.

Justification

¶2 The base IPv6 specification (RFC 2460) was published in December, 1998. It was motivated by numerous issues or impending challenges with IPv4, given the explosive growth of the Internet, which has only accelerated in the almost two decades since then. One key challenge was the impending exhaustion of IPv4 addresses. The availability of Native Address Translation (NAT) has allowed public IPv4 addresses to be conserved, because a handful of public addresses can provide access to hundreds of thousands or more private addresses behind a NAT interface. But NAT-based architectures have their own challenges, and the burgeoning Internet of Things (IoT) is making it ever more crucial to continue and accelerate the availability of IPv6.

¶3 The IPMI 2.0 specification added IPv6 awareness as of October, 2013. The hardware platform management layer of PICMG 3.0 is based on IPMI. ECR 3.0-3.0-001 takes advantage of that fact to simplify adding IPMI-compatible IPv6 awareness to PICMG 3.0.

¶4 PICMG 3.7 R1.0 is based on PICMG 3.0 R3.0. This ECN makes simple revisions to PICMG 3.7 that cause it to be based on PICMG 3.0 R3.0 as amended by ECN 3.0-3.0-001. The revised PICMG 3.7 thereby inherits IPv6 awareness.

Style

¶5 The key conventions used in this document are listed below. The last one is especially important and (prior to ECN 3.0-3.0-001) not previously used in PICMG, so it is emphasized with a bold font.

- Sections of PICMG 3.7 that are not modified by this ECN are not mentioned here.
- Where a PICMG 3.7 specification section is partially modified by this ECN, a corresponding section, with matching section number and title, is included in this document and the content of the section describes the small changes to it.
- Where a section title cited in either PICMG 3.0 as amended by ECN 3.0-3.0-001 or in PICMG 3.7 includes a square-bracketed double-dagger tag, that tag (or tags, if both section titles have them) is/are carried forward to the section title here. For instance, section 3.3.1.2 is tagged “[‡3.3.1.2, full replacement],” with the first part of the tag coming from PICMG 3.7 and the second part from ECN 3.0-3.0-001. PICMG 3.7 and ECN 3.0-3.0-001 have somewhat different conventions regarding such tags; the goal in this document is to be consistent with the relevant convention(s).
• By design, elements in ECN 3.0-3.0-001 (including requirements, for instance) that are new to PICMG 3.0 R3.0 are numbered in such a way that the numbers do not conflict with either: 1) existing elements in PICMG 3.0 R3.0 or 2) new elements defined by PICMG 3.7. Therefore, the revisions in ECN 3.0-3.0-001 merge smoothly when the revised PICMG 3.0 R3.0 is used as the base for PICMG 3.7.

• All changes to existing PICMG 3.7 language are highlighted with a gray background. New text simply has that gray background. Deletions of existing text in PICMG 3.7 use the same gray background, but with a single strikethrough font variant to identify the deleted text.
1 Introduction

¶6 This section of PICMG 3.0 needs only small updates.

¶7 The text of Section 1.2.1, ¶13 is updated as follows:

In this document all references to “PICMG 3.0” refer to the PICMG 3.0 AdvancedTCA Base Specification, Revision 3.0 as amended by ECN 3.0-3.0-001.

¶8 The text of the first row in Table 1-1001 is similarly updated as follows:


¶9 ECN 3.0-3.0-001 adds a new section, 1.2.4, after section 1.2.3. This ECN simply acknowledges that no additional changes to that new section need to be made in the amended PICMG 3.7.

1.2.4 Internet Protocol version 6 references [‡1.2.4]

¶10 No changes or additional comments to the PICMG 3.0 specification.
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3 Hardware platform management

¶11 This section updates the citations of the sections in PICMG 3.0 that are fully replaced in the amended PICMG 3.0. No additional comments are needed in PICMG 3.7 regarding these sections or the subsections they contain, if any.

3.3.1.2 Internet Protocol addressing of the Shelf Manager [‡ 3.3.1.2, full replacement]

3.3.1.3 IPMI-oriented System Manager communications [‡3.3.1.3, full replacement]

3.3.1.4 AdvancedTCA® extensions to IPMI’s BMC requirements [‡3.3.1.4, full replacement]
Section 3

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