Specification Section 996
Subarticle 996-1

ORIGINATION
Date: 6-12-25
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COMMENTARY

The language needs to be changed to update requirements to meet stakeholder needs and reflect current technologies and practices.

INTERNAL COMMENTS AND RESPONSES
(Please note all comments and responses are verbatim as received. The Specifications Office does not alter typos or grammar.)

BLACK = Comment **BLUE** = Specifications Response **GREEN** = Change Made to Specification

Name: Tushar Patel
Date: 6-30-25

COMMENT: 996-2.3.1– Is it the intent to solely utilize HDMI and not allow for DVI or Display Port connections?

RESPONSE: The intent is to define a minimum configuration that must be met unless otherwise shown in the Plans. The plans can increase and adjust the number and type of connections that must be provided, as well as the minimum number of streams required, based on project-specific design requirements. Adapters may also be allowed to provide the HDMI 2.0 interface as necessary and if needed. For instance, standard (Type-A) and mini (Type-C) are both capable of HDMI 2.0 but an adapter or specialty cable would be needed to connect a Type-A cable to a Type-C port.

ACTION TAKEN: No change needed.

COMMENT: 996-2.3.3– Previously we stated that the controller must support 4 HDMI in and 12 HDMI out, now this section states that it shall support VGA, SVGA and SXGA. Please clarify. Again, no support for DVI or Display Port.

RESPONSE: The specification defines the minimum configuration, unless otherwise shown in the Plans, such that a design can increase and adjust the type of connections that must be provided based on project need. The reference to VGA, SVGA, and SXGA is to require that the controller must be able to handle and display these various graphics resolutions (e.g., network screen scrapes, remote desktop graphics, etc.), irrespective of the physical connections between the controller and input/output devices.

ACTION TAKEN: No change needed.

COMMENT: 996-2.3.3.1– Recommend striking 10/100/1000 RJ45 and replacing with 1000/10GBASE-X to allow for fiber or copper connectivity. Recommend changing "Must be supplied with a managed Ethernet switch" to "May be supplied with a managed Ethernet switch". This allows for The Department to utilize our own equipment if needed or desired.

RESPONSE: Recommend keeping "must" vs. "may". This keeps the requirement in place and enforceable when needed and the Engineer should be able to allow a variance in cases where the Department prefers to provide or utilize existing equipment. The goal is that the device be able to operate in its minimum configuration using a single 10/100/1000 RJ45 connection and videowall controllers may not natively be able to include SFPs, etc. However, we agree with adding the 1000/10GBASE-X interface requirement to allow fiber or copper connectivity if the display controller requires its own switch to accommodate additional connections

ACTION TAKEN: Incorporated suggested change to include 1000/10GBASE-X interface requirement to allow for additional fiber or copper connectivity as may be required to meet project specific needs.

COMMENT: 996-2.3.3.2 – As above we are stating that all interfaces must be HDMI when we state in 996-2.3.3 must support VGA, SVGA, SXGA.

RESPONSE: The reference to VGA, SVGA, and SXGA is to require that the controller must be able to handle and display these various graphics resolutions (e.g., network screen scrapes/remote desktop graphics, etc.), irrespective of the physical connections between the controller and input/output devices.

ACTION TAKEN: No change needed.

COMMENT: 996-2.3.4 – Recommend adding 240 VAC as this is the standard for data centers

RESPONSE: Agree.

ACTION TAKEN: Subarticle edited to require operation with 120/240 VAC.

COMMENT: 996-3.2.1 Recommend adding 10/100/1000/10GBASE-X

RESPONSE: This will be considered for inclusion in a future revision but not at this time due to potential impacts to multiple products currently on the APL.

ACTION TAKEN: No change needed.

COMMENT: 996-3.2.2– Recommend adding 802.3 ae to add 10GBASE-X

RESPONSE: This will be considered for inclusion in a future revision but not at this time due to potential impacts to multiple products currently on the APL.

ACTION TAKEN: No change needed.

COMMENT: 996-3.3.1 Recommend changing "The MHES shall provide Ethernet connectivity at transmission rate of …" to "The MHES shall provide Ethernet connectivity at the minimum transmission rates of…"

RESPONSE: While there are instances where certain quantities are qualified as minimum requirements, all the requirements in this specification are minimum requirements that can be exceeded without explicitly stating that every requirement is a minimum requirement.

ACTION TAKEN: No change needed.

COMMENT: 996-3.3.2 – Recommend adding 802.3 ae to add 10GBASE-X

RESPONSE: This will be considered for inclusion in a future revision but not at this time. The reference to 1000BASE-X is considered sufficient for now.

ACTION TAKEN: No change needed.

COMMENT: 996-3.3.5 – Bullet #12 should read "RIPv2"

RESPONSE: We originally stated "RIP" vs. "RIPv2" since the latest version is implied if not specifically identified. However, in this case, stating a specific version for clarity is warranted to avoid potential confusion with RIPng, etc.

ACTION TAKEN: "RIP" changed to "RIPv2".

COMMENT: 996-7.2.1 – Recommend changing "The UPS shall support SNMP…" to "The UPS shall support SNMPv2/3"

RESPONSE: We originally stated "SNMP" vs. "SNMPv3" since the latest version is implied if not specifically identified. However, in this case, stating a specific version for clarity is probably warranted. Moving forward, the TERL generally plans to update any specifications referencing SNMP to require SNMPv3 due to its stronger security features.

ACTION TAKEN: "SNMP" changed to "SNMPv3".

COMMENT: 682-2.2.1 – Is it the intent to solely utilize HDMI and not allow for DVI or Display Port connections?

RESPONSE: The intent is to define a minimum configuration that must be met unless otherwise shown in the Plans. The plans can increase and adjust the number and type of connections that must be provided, as well as the minimum number of streams required, based on project-specific design requirements.

ACTION TAKEN: No change needed.

Name: Mark Parry
Date: 6-27-25

COMMENT: Does there need to be a requirement for a hierarchy of users to be able to prioritize who controls the images?

RESPONSE: Most of the systems we've seen and used typically have this capability but there would be no harm adding it to make sure that it doesn't go away.

ACTION TAKEN: None taken. Suggestions will be reviewed in the future.

COMMENT: The video control system does not require any analog connections. Should this be paragraph be removed?

RESPONSE: Good catch. We should have deleted "Analog video". The intent is that the system provide the capability to display and resize any source.

ACTION TAKEN: Removed paragraph.