



## Technology Policy for PBS-Owned Building Monitoring and Control Systems

**Purpose.** This document establishes PBS policy for smart building technologies that allow for more cost-effective, near real-time visibility and control of all building systems. PBS' goal is to converge a building's monitoring and control (M&C) systems infrastructure to enable smarter and more efficient operations.

**Definition.** The term "M&C systems" means building systems designed to operate building equipment and or to obtain data from the building equipment or environment. Examples include systems for: utility metering; heating, ventilation and air conditioning; onsite renewable energy generation; building automation or management (BAS/BMS); fire alarm and emergency communications; security cameras; lighting; elevator; and physical access control. M&C systems include their controllers, devices and sensors.

**Applicability and Scope.** This policy applies to all M&C systems in PBS-owned buildings. This policy does not apply to tenant agency systems or networks.

**Background.** Most PBS-owned buildings incorporate a variety of M&C systems. Typically, modern systems exist as standalone information technology (IT) networks, often with remote support by a vendor. IT security vulnerabilities and lost opportunities to use data to operate buildings more efficiently and effectively are the result of this situation. Converging M&C systems on a secure IT network enables PBS buildings to support the GSA Sustainability Plan, cut energy use and construction and operating costs, and enhance the tenant experience.

**Effective Date and Expiration Date.** This policy is effective immediately and remains in effect until rescinded or changed.

### Policy.

#### 1. M&C systems.

- (a) All new M&C system designs must:
  - i. Specify the latest industry standards for native, fully open communication protocols (e.g., open source code for sequences of operations and no hidden licensing restrictions) or, if none, then the industry standard for open protocol for that trade.
  - ii. Specify coordination with other M&C systems in the building to share common communications and connectivity.
  - iii. Require IP-addressable parts of M&C systems to reside on the GSA provided network (which begins with any switch or router that permits IP routing to GSA servers providing IP connectivity) per GSA IT security requirements and building technologies implementation guides (see 3(d) below).

iv. Be free from restrictive End User Licensing Agreements.

- (b) Projects already under design or construction must comply with 1(a) requirements to the maximum extent practicable.
- (c) Existing M&C systems must be considered for replacement when other than minor upgrades or modifications are planned.
- (d) Fire alarm and emergency communication systems must not be controlled by other M&C systems. However, they may be monitored by other M&C systems (e.g., transmit read-only data).

## 2. Project Manager Responsibilities.

At the start of design, project managers and designers of projects that include installation, modification or expansion of M&C systems must coordinate with the PBS Chief Information Officer's (PBS CIO) building and energy systems group, the PBS regional smart buildings program manager, and the PBS regional fire protection engineer for assistance in implementing these requirements.

## 3. The PBS CIO must:

- (a) Coordinate and provide all equipment required for network connectivity and functionality, including computers, servers, routers, and switches in accordance with project requirements and schedules.
- (b) Provide network design review and assistance, including approval of the final network design diagram.
- (c) Manage and support the GSA IT network and Government-provided hardware, except for M&C system application software and devices.
- (d) Publish building technologies implementation guides as a supplemental resource to implement this policy.

## 4. Architect-Engineers and Contractors Responsibilities.

Contractors are responsible for designing, installing, commissioning, and operating M&C systems in accordance with 1(a) and (d); connecting and integrating the various M&C systems in the building, sharing infrastructure wherever possible; placing the application software for each M&C system on GSA servers in coordination with the PBS CIO; and providing training.



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