

**FEBRUARY 25, 2020**  
**003C2B-SA-017**

## Office of Information and Technology Infrastructure Standards for Telecommunications Spaces

**NEW STANDARD(S):** The following standards are added to the Technical Information Library (TIL):

- [Office of Information and Technology \(OIT\) Infrastructure Standards for Telecommunications Spaces v2.2 \(19 Feb 2019\)](#) (OIT “eye” “ess”, OIT IS)
- [Office of Information and Technology \(OIT\) Design Guide Templates for Critical Telecommunications Spaces in Clinical and Non-clinical Environments v1.0 \(27 Dec 2018\)](#) (OIT “room templates”, OIT RT)

These documents are referred to collectively herein as the OIT Standards.

The OIT Standards are accessed via links on the [Design Guides \(PG-18-12\)](#) web page, below the Office of Information & Technology heading, with text referring to this Standards Alert.

**IMPLEMENTATION:** The OIT Standards:

- Must be utilized, and implemented to the maximum extent practicable, on new and existing projects during planning, design, and construction of all VA facilities;
- Become the primary standard for the technical content therein, and define best practices to enable the VA Enterprise Architecture for information technology; and
- Do not strictly supersede other TIL standards, due to differences in scope and the presence of conflicting criteria which require full consideration by the design team to resolve on a project-specific basis.

Project teams must:

- Proactively notify and engage OIT’s Enterprise Data Center Infrastructure Collaboration Team (EDICT) using the contact information provided in the OIT IS;

- Where conflicts arise between the OIT Standards and other TIL standards, or for other technical conflicts/issues:
  - Document the conflict/issue;
  - Consult with EDICT and other project stakeholders to achieve best-value project-specific solutions;
  - Document deliberation and solution;
  - Maintain documentation in the project file; and
  - Provide copies of documentation to EDICT and the TIL feedback mailbox ([til@va.gov](mailto:til@va.gov)) to facilitate lessons learned and standards evolution.

For editorial issues which do not have a technical effect, email the TIL feedback mailbox at the address above.

Known conflicts/issues which require careful coordination and evaluation include, but are not limited to:

- Room names, minimum floor area, height, layout and finishes;
- HVAC configuration; and
- Cable type.

Further details on these and other issues are provided in Attachment 1.

**PURPOSE:** To improve facility planning, design, and construction project team awareness of and access to the OIT Standards. This will improve project planning, will eliminate or minimize re-design and associated cost and delay in latter project stages, and will ensure VA IT infrastructure is well-positioned to leverage advancements in information technology.

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**ATTACHMENTS:** The following provide more detailed information on specific technical issues; background on development of the OIT Standards and telecommunications standards on the TIL, and future plans; policy excerpts establishing OIT authority to develop the OIT Standards, and other related VA organizational authorities and responsibilities; and a list of references.

[Attachment 1 — Known Standards Conflicts and Other Issues](#)

[Attachment 2 — Background Information](#)

[Attachment 3 — Policy Excerpts](#)

[Attachment 4 — References](#)































- PG 18-12 pp.4-20 & 44 floor plans show the separate entrances for OIT and FMS equipment areas of the MCR.
- PG 18-12 pp.4-84 through 87 illustrate the TR fence requirement, and a note describing the fence on p.4-88 states “Optional Wire Mesh partition to 96”H with lockable, sliding, wire mesh gates (36”W x 93”H) at each opening. Provide separate OIT and FMS equipment if lockable enclosures are not used at racks or cabinets.”

Room Layout – Equipment Allowances and Clearances – General – MCRs and TRs

There are several different equipment clearance parameters, which in some cases vary between the TIL standards and the OIT Standards.

| Parameter  | TIL Standards  | OIT Standards   |
|--|--|---|
| End of Row - MCR   | To perimeter wall:<br>4’-0” min<br>5’-0” max<br>(PG 18-12 p.4-2)<br>Expressed as a range to accommodate 12” conduit entry (floor penetration) clearance while maintaining the minimum 4’-0” clearance. | To perimeter wall - 3’-0”<br>To HVAC and power distribution equipment – 4’-0” min (6’-0” recommended)<br>(OIT IS p.25, 3.1.2.2 Data Center Layout Standard, Table 12, ID 3 – Equipment Rows, Clearance) |
| Provided at Both Ends of Rows  | See Discussion in Next Section   | See Discussion in Next Section  |
| Wall-Mounted Equipment Allowance – MCR – FMS Equipment Areas   | 12”<br>(PG 18-12 p.2-23)   | None  |
| Conduit Entry (Floor Penetration) Allowance at Perimeter Wall – MCR – OIT Passive Distribution Equipment | 12”<br>(PG 18-12 p.4-32)   | None  |
| Wall-Mounted Equipment Allowance - TR  | 12”<br>(PG 18-12 p.2-22)   | None  |
| Clearance at Front and Rear of Racks – TR – To Wall-Mounted Equipment Allowance                          | 3’-0”  | None  |





| Parameter   | TIL Standards  | OIT Standards   |
|---|--|---|
| Minimum Aisle Width – MCR – Cabinets (Clearance from front and rear)  | 4'-0"  | In cold aisles - 4'-0" min<br>In hot aisles - 3'-0" min (4'-0" recommended)<br>(OIT IS p.24, 3.1.2.2 Data Center Layout Standard, Table 12, ID 1 – Aisles, Width)                 |
| Minimum Aisle Width – MCR – Racks (Clearance from front and rear)     | 3'-0"  | See MCR Cabinets Above  |
| Alignment with 24" Grid (Access Floor Tile Layout, or Floor Markings) | Access floor panel size "shall be 24 inches by 24 inches" (PG 18-12 p.2-11)<br><br>There are no specific requirements or guidance to align equipment with the tile grid. | Yes – Front face of equipment<br>(OIT IS p.24, 3.1.2.2 Data Center Layout Standard, Table 12, ID 1 – Aisles, Orientation;<br>pp.68-71, 3.2.1 Data Center Position Identification) |

**Room Layout – Equipment Allowances and Clearances - Rack Rows Terminating Against A Wall**

In the TIL standards, PG 18-12 p.2-19 states "Rows of cabinets and racks are pushed to one wall of the MCR. There will not be circulation space around both ends of a row." This is illustrated in PG 18-12 Floor Plans for each area of the MCR. PG 18-12 p.4-2 Figure 4.1 End Clearance Plan also has a note which states "[End clearance] required on at least one end of each row of cabinets, or racks." This implementation of the requirement differs from the original written text in that it doesn't prohibit clearance at both ends of the rack row.

In contrast, the OIT Standards clearly prohibit rows terminating into a wall, in effect requiring clearance at both ends.<sup>1,2</sup> The rationale for this is to:

- Facilitate rack installation and replacement by providing a gap between the end rack and the wall to allow dollies wider than the rack to access the rack;
- Minimize path length and transit time during maintenance and emergency egress;
- Accommodate redundant and symmetric overhead power and data cable tray layouts.

<sup>1</sup> OIT IS p.25, 3.1.2.2. Data Center Layout Standard, Table 12, ID 3, Equipment Rows, Orientation

<sup>2</sup> OIT RT, Floor Plans on Sheets 4 through 18 illustrate implementation of OIT IS 3.1.2.2.



### Room Finishes – Raised Access Floor and Slab Depressions

TIL standards for the Main Computer Room distribute cold air to the face of rack rows through a raised access floor plenum (e.g. PG 18-12 p.2-14 Figs. 2.1 & 2.2). There is also a corresponding requirement for a structural slab depression of 24" (PG 18-12 Section 4, Room Design Standards), although OIT EDICT reports that, in the course of their extensive site visits, slab depressions are rarely implemented, and flat slabs with raised access ramps are used instead.

In contrast, OIT Standards deprecate raised floors for new construction (OIT IS Table 11, ID 2, Floor Height; and 3.1.3.4), requiring them only if justified by computational fluid dynamics (CFD) analysis. Reasons for deprecating raised access floor include:

- Capture cost savings;
- Eliminate requirements for slab depressions and association restrictions on location of space within a building;
- Improve access to network and power cables for installation, maintenance, and inspection;
- Overhead busways eliminate the need for licensed electrician to execute circuit changes;
- Improve efficiency through a heat containment configuration;
- Reduce seismic risk;
- Eliminate underfloor maintenance;
- Eliminate cooling losses due to drawdown or recirculation caused by venturi effects;
- Eliminate risk of airflow restriction caused by underfloor obstructions;
- Maximize space efficiency by eliminating ramps;
- Eliminate risk of structural deficiencies in the raised floor system.

In the event raised access floor is required, the OIT Standards have extensive standards to optimize airflow.

PG 18-12 specifications for access floors (p.2-10 & 11), such as structural performance and ramp requirements, remain in effect, but must be reconciled with the OIT Standards. For example, the higher rack and cabinet densities and capacities anticipated by the OIT Standards may require increasing the minimum structural performance specifications in PG 18-12.

### Room Finishes – Ceiling

TIL standards require acoustical ceiling tile (ACT) for the majority of OIT spaces, with some additional space-specific criteria.

OIT Standards are mixed. The OIT IS does not explicitly prohibit suspended ceilings, but does place restrictions on use of the plenum space and recommends removal of existing suspended



ceilings. The OIT RT has stronger language and specifically prohibits suspended ceilings in newly constructed spaces.

In summary, the OIT Standards are similar to the TIL standards, with the exception that, in the strongest interpretation of OIT Standards intent, suspended acoustic tile ceilings are prohibited in new computing spaces, and, in existing spaces, are recommended to be removed or converted to egg-crate/grate tiles.

TIL Standards Excerpts:

- PG 18-12 p.2-11 – Ceilings:
  - Where required for sanitation or moisture resistance, ACT should have a washable plastic (Mylar) finish.
  - In the Main Computer Room, and other rooms containing IT equipment, the ceiling finish should minimize dust and be light-colored to maximize light reflectance. Acceptable products include “Clean Room” type or Mylar-faced panels in an aluminum suspension system. Layout of the ceiling grid should align with the access floor system.
  - Suspended ceilings are not recommended in the Demarc Room(s), Telecommunications Room(s), and Antenna Headend Equipment Room.
- PG 18-12 Section 4, p.4-12 — Exposed ceilings are also specified for HVAC and Electrical Equipment rooms serving the Computer Area (includes Main Computer Room) and the Telephone Equipment Room.

OIT Standards Excerpts:

- OIT IS p.43 Table 23 & p.45 3.1.3.4.1 – Legacy facilities are encouraged to maximize room height through removal of aesthetic suspended ceilings to maximize cooling efficiency.
- OIT RT Sheet 3 Mechanical/Structural Notes – Ceilings: No suspended ceilings allowed.

### Room Occupancy – Shallow Rooms

Shallow rooms are telecommunications spaces that have no or very little floor space, having a depth of a few feet (there is no formal definition for this space). Telecommunications conduit or equipment therein is generally within arms-length of the doorway, and, instead of dedicated lighting or HVAC, utilize services from the adjacent space (corridor, etc.).

TIL standards are silent on this type of space, except as may be found in referenced codes and industry standards. OIT standards restrict the use of these spaces as follows:

“VA shall not design or building “shallow rooms” or similar closets. Shallow rooms are intended for access to vertical chases and riser cables installed there only. Where a



distribution TR is necessary in a location (i.e. the third floor of the west wing of a hospital), VA shall construct and operate out of a standardized TR.”<sup>3</sup>

### HVAC Configuration

PG 18-12 provides HVAC standards for OIT spaces, such as room environmental parameters (temperature and relative humidity range), outside air percentage, and duct noise class.<sup>4</sup> For MCRs in particular, it acknowledges the inefficiency of whole room air mixing and cooling, expresses a preference for separate and contained supply and return air, describes cold- and hot-air containment, and mentions other needs such as maintaining acceptable air pressure on IT equipment, preventing underfloor air dams, preventing short-cycling, proper tile selection, sealing access floor penetrations, and a potential need for computational fluid dynamics (CFD) analysis. Diagrams and room Design Standards indicate that use of both cold-air containment and hot-air containment is the basis-of-design.

The OIT Standards are generally similar to the TIL basis-of-design and provide additional specifications and implementation details. Significant deviations from the TIL standards include:

- Deprecation of access flooring from the default state to one requiring justification using CFD;
- Environmental conditions measured at the rack rather than room ambient air;
- More detailed equipment specifications (minimum tonnage, humidification system types, redundancy associated with data center rating, distribution of high-density racks, etc.)

### Minimum Category Cable Rating

On the TIL, PG 18-10 allows Cat 5e, 6, and 6A for horizontal distribution<sup>5</sup>. It contains a recommendation for 5e, and an approval process for Cat 6 and 6A. Cat 6 and 6A are not explicitly prohibited. It does prohibit specific non-copper, copper-clad, and similar conductors.

The OIT Standards require Category 6A (Cat 6A) unshielded twisted-pair (UTP) cable for horizontal distribution (e.g. between telecommunications rooms and wall outlets). Factory terminations are preferred, but field terminations are permitted. The Cat 6A requirement is derived from recommendations for Category 6 (Cat 6) in ANSI/TIA-1179 Health Care Facility Telecommunications Infrastructure. Cat 6A is specified to ensure reliable 10-gigabit-per-second Ethernet (GbE) data transfer rates over a greater length than Category 6 cable is rated for, to enable Power Over Ethernet (PoE), to enable high-bandwidth video applications, and to enable proliferation of wireless access points and devices. Existing Cat 6 cable is allowed with an approved variance.

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<sup>3</sup> OIT IS p.26 3.1.2.2 Data Center Layout Standard, Implementation Guidance

<sup>4</sup> PG 18-10 HVAC Design Manual (Nov 2017 rev. Mar 2019) also provides HVAC criteria for OIT spaces. Refer to the data sheets on pp.6-103–8.

<sup>5</sup> PG 18-10 3.2, Table 3.1



Project teams must evaluate the technical requirements of the information systems and devices utilizing the horizontal distribution and select cable which provide best-value to VA. OIT EDICT must be included in any TIL-specified approvals process where there are criteria overlaps. Project teams are encouraged to consider future demands which may arise within a reasonable period after completion of the project when making best-value decisions.

For projects associated with the Electronic Health Records Modernization (EHRM) program, cabling must be determined in accordance with the Electronic Health Records Modernization Cabling Infrastructure Memorandum dated 23 September 2019. This can be obtained on the [OEHRM Collaboration Site](#).

### Reliability and Redundancy

The TIL Telecom Standards specify data service reliability using the Uptime Institute four-level Tier system. In contrast, the OIT Standards utilize ANSI/TIA 942 Ratings. Neither require certification.

Project teams must follow the OIT Standards and utilize ANSI/TIA 942 Ratings. VA self-certifies utilizing the TIA checklist.

### Manufacturer-Specific Equipment

The OIT RT contains manufacturer-specific equipment data. These, and any other manufacturer-specific requirements that may be present in the OIT Standards, are mere examples to illustrate implementation of written performance requirements. Neither the written performance requirements, nor the equipment data, are intended to require sole-source or otherwise non-competitive acquisitions which do not provide best-value to VA. In the event project teams encounter requirements which may unnecessarily restrict competition and hinder best-value solutions, the TIL maintainers and relevant subject matter experts identified in the standards publications must be notified so they may advise on the project-specific issue and plan for standards updates.



## Attachment 2

**BACKGROUND:** This section provides detail on the authorities and responsibilities of OIT and CFM and their interaction, development of the OIT Standards, development of TIL Telecom standards, and plans to further develop OIT and TIL Telecom standards.

### Office of Information and Technology

OIT is led by the Assistant Secretary for Information and Technology and Chief Information Officer (AS/CIO). The VA CIO is a statutory position created by the Information Technology Management Reform Act of 1996<sup>6</sup> (ITMRA96). ITMRA96 also assigned the VA Secretary authority over various aspects of information technology including capital planning and investment control, performance and results-based management, and acquisition; and it assigned the VA CIO duties to advise the Secretary on those issues, as well as execute various information resource management responsibilities, to include developing VA's information technology architecture.

The authorities and responsibilities of the CIO, and the scope and structure of OIT, have since evolved through the issuance, revision, application, and rescission of various Public Laws, Executive Orders, Office of Management and Budget (OMB) Memoranda, VA Memoranda and Directives, and other instruments of federal and agency policy. The latest non-VA instruments driving VA and OIT policy relevant to the OIT Standards include:

- The Federal Information Technology Acquisition Reform Act (FITARA)<sup>7</sup>
- OMB Memorandum M-15-14, Management and Oversight of Federal Information Technology, June 10, 2015
- OMB Memorandum M-16-19, Data Center Optimization Initiative (DCOI), August 1, 2016
- OMB Memorandum M-17-26, Reducing Burden for Federal Agencies by Rescinding and Modifying OMB Memoranda, June 15, 2017

These are implemented through the following VA policies relevant to the OIT Standards:

- Directive 6008 Acquisition and Management of VA Information Technology Resources
- Directive 6051 Enterprise Architecture
- Directive 6004 Configuration, Changes, and Release Management Programs

6008 establishes CIO authority and responsibility over “all information-related assets that are part of or interact with VA’s information networks, services, and capabilities.” “information-

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<sup>6</sup> Pub. L. 104-106, National Defense Authorization Act of 1996, Division E

<sup>7</sup> Pub. L. 113-291, National Defense Authorization Act for Fiscal Year 2015, Title VIII, Subtitle D, December 12, 2014  
— Established VA CIO as a presidential appointee to establish parity with the VA CFO.



related assets” is not formally defined in 6008, but, by review of the formally defined terms therein (e.g. information technology, IT-related, IT Infrastructure, etc. in §5), the intent is clear that **CIO authority over all VA information technology is comprehensive and without exception**. Information technology classifications in 6008 (e.g. IT, non-IT, clinical, medical devices, facility equipment, construction, etc. in §2) apply to sources of funding only, and not CIO authority.

Select provisions from these policies relevant to development and implementation of the OIT Standards, and VA organizational authorities and responsibilities for various aspects of information technology and telecommunications, are provided in Attachment 3.

### Office of Construction and Facilities Management

The Office of Construction and Facilities Management (CFM) is led by an Executive Director, a statutory, career-reserved appointee of the Secretary (SECVA) reporting directly to the Deputy Secretary (DEPSECVA). This position was created by the Veterans Benefits, Health Care, and Information Technology Act of 2006 (Pub. L. 109-461), and is “responsible for overseeing and managing the planning, design, construction, and operations of [VA facilities and infrastructure,] including major and minor construction projects”, and **has a specific responsibility for “determining architectural and engineering requirements...”**. The Facilities Standards Service, within CFM’s Office of Facilities Planning, is the primary executor of this specific responsibility, and does so through the publication of standards on CFM’s Technical Information Library (TIL).

### OIT Standards

The OIT Standards are currently authorized under specific CIO responsibilities defined in VA Directive 6008 to:

- “Ensure all VA information resources...are compliant with enterprise...standards...” [3.a(3)(d)]
- “Provide visibility through VA’s enterprise architectures to all...standards...to guide VA IT item design, acquisition, development, and deployment.” [3.a(3)(e)]
- “Develop, maintain, and assure completeness and proper use of standard IT configurations.” [3.a(3)(f)]
- “Oversee and collaborate with VA stakeholders at the local level...” [§3.a(3)(h)]

The OIT IS precedes 6008. It was initially developed in 2007 in response to a national data center consolidation initiative. Further development, in preparation for VA obligations under the Federal Data Center Consolidation Initiative (FDCCI) initiated in February 2010<sup>8</sup>, culminated

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<sup>8</sup> Federal CIO Memorandum February 26, 2010

[https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/egov\\_docs/federal\\_data\\_center\\_consolidation\\_initiative\\_02-26-2010.pdf](https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/egov_docs/federal_data_center_consolidation_initiative_02-26-2010.pdf)



in v1.0 in 2012. In response to issuance of Directive 6008 in August 2016, significant revisions were initiated by EDICT and are ongoing. This period also saw the development of the OIT RT. OIT IS v2.2, formally issued April 10, 2019, is the latest version approved by OIT and available for VA use.

The OIT Standards are a special case in several respects:

- VA Enterprise Architecture baselines and standards typically establish approved uses and configuration of IT hardware, software, and other specific IT technologies or processes. In contrast, the OIT Standards provide criteria for space and other aspects of facilities design.
- OIT is the only VA business unit which develops, publishes, and maintains detailed facilities requirements independently of CFM. This unusual situation is created by the rapid pace of change of IT infrastructure technologies and best practices within VA and throughout the information technology and health sectors, and by natural overlaps in OIT and CFM authorities, responsibilities, and expertise.
- The OIT Standards are currently published in the Information Technology Operations and Services (ITOPS) [Baseline and Configuration Management](#) document repository and the [VA Technical Reference Model \(TRM\)](#), VA intranet sites with limited exposure to project stakeholders.

Despite the authority of OIT to develop and promulgate the OIT Standards, project personnel are accustomed to relying on the TIL standards, consistent with CFM's more specific authority over architectural and engineering requirements. Posting the OIT Standards on the TIL is an effort to increase their prominence and authority, promote project personnel awareness, and require utilization and EDICT participation from the earliest project planning stages. It is a stop-gap to address an urgent need pending a more comprehensive effort toward full TIL integration.

### Looking Ahead

Future alerts are anticipated as updates are made to OIT Standards, TIL Standards, and VA policies. Known short- and medium-term issues include:

- OIT IS v3.0 is proceeding through OIT's approvals process, with planned publication in the second quarter of fiscal year 2020 (January-March).
- Post-v3.0 updates to the OIT Standards, annually or as changes in technology may warrant.
- Updates to VA policies to implement OMB Memorandum M-19-19, Update to Data Center Optimization Initiative (DCOI), 25 June 2019.
- Project to integrate the OIT Standards into the TIL standards.





Long-term issues include:

- Establish a program of regular updates to TIL information technology and telecommunications standards which are well-coordinated with OIT standards development.





- “Oversee and collaborate with VA stakeholders at the local level to ensure that IT-related capabilities funded and deployed at local sites are appropriately vetted and formally (sentence incomplete, ends abruptly).” [3.a(3)(h)]
  - “Under Secretaries, Assistant Secretaries, and Other Key Officials will:” [3.b]
    - “Ensure all VA IT and non-IT items/services which connect to any VA Network are subject to rules, standards, and oversight processes as prescribed by the VA CIO in order to comply with information assurance, accessibility, security, privacy, and enterprise architecture standards.” [3.b(1)]
    - “Integrate compliance with this policy within establish decision processes in which they oversee or participate;” [3.b(2)]
- Directive 6051  
Enterprise Architecture
  - “Enterprise architecture is a strategic information asset base, which defines the Department’s mission; the information and technologies necessary to perform the mission; and the transitional processes for implementing new technologies in response to changing mission needs. It includes a baseline architecture...” [2.a]
  - “All VA IT systems and investments must comply with the Department’s Enterprise Architecture (EA).” [2.b]
- Directive 6004  
Configuration, Changes, and Release Management Programs
  - “The purpose of this Directive is to establish Department-wide Configuration, Change, and Release Management Programs in compliance with the Federal Information Security Management Act of 2002 (FISMA), 44 USC §3541-3549, and Pub. L. 107-347, Title III, and VA Directive and Handbook 6500, Information Security Program, to provide Configuration, Change, and Release Management processes...This directive applies to all VA related components and information technology resources, including contracted IT systems and services.” [1]
  - “Configuration, Change, and Release Management Programs will be implemented and maintained by [OIT]”. [2.a]
  - “...each VA system owner must document, implement, and maintain Configuration, Change, and Release Management plans and processes.” [2.b]
  - “[Document and maintain] the configuration baseline(s) applicable to the deployed system.” [2.b(1)]



## Attachment 4

### REFERENCES:

(Alphabetical by type, ascending; then chronological or document number, ascending)

The references below were instrumental toward developing this Standards Alert and establishing context.

#### Office of Construction and Facilities Management (CFM) — Technical Information Library (TIL) Standards

PG 18-5 Equipment Guide List – Chapter 232 – Office of Information & Technology (Aug 2016)

<https://www.cfm.va.gov/til/equip.asp>

PG 18 -9 Space Planning Criteria – Chapter 232 – Office of Information & Technology (Oct 2016)

<https://www.cfm.va.gov/til/space.asp>

PG 18-12 Design Guide – Office of Information & Technology (Feb 2011)

<https://www.cfm.va.gov/til/dguide.asp>

PG 18-10 Design Manual – Telecommunications and Special Telecommunications Systems (Feb 2016)

<https://www.cfm.va.gov/til/dManual.asp>

TIL Homepage

<https://www.cfm.va.gov/til/index.asp>

#### Office of Information and Technology (OIT) Standards

Design Guide Templates for Critical Telecommunications Spaces in Clinical and Non-clinical Environments v1.0 (27 Dec 2018)

<https://www.cfm.va.gov/til/dGuide/OIT-DGTemplates-CriticalTelecommSpaces.pdf>

Infrastructure Standards for Telecommunications Spaces v2.2 (19 Feb 2019)

<https://www.cfm.va.gov/til/dguide/OIT-InfrastrucStdsTelecommSpaces.pdf>



Office of Management and Budget (OMB) Memoranda

M-96-20 Implementation of the Information Technology Management Reform Act of 1996  
(4 Apr 1996)

<https://www.whitehouse.gov/wp-content/uploads/2017/11/1996-M-96-20-Implementation-of-the-Information-Technology-Management-Reform-Act-of-1996.pdf>

M-97-02 Funding Information Systems Investments (25 Oct 1996)

<https://www.whitehouse.gov/wp-content/uploads/2017/11/1997-M-97-02-Funding-Information-Systems-Investments.pdf>

M-97-16 Information Technology Architecture

<https://www.whitehouse.gov/wp-content/uploads/2017/11/1997-M-97-16-Information-Technology-Architectures.pdf>

M-15-14 Information Technology Architectures (18 Jun 1997)

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2015/m-15-14.pdf>

Rescinded by M-17-26, Reducing Burden for Federal Agencies by Rescinding and Modifying OMB Memoranda, issued June 15, 2017.

M-16-19 Data Center Optimization Initiative (DCOI)

[https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2016/m\\_16\\_19\\_1.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2016/m_16_19_1.pdf)

M-19-19 Update to Data Center Optimization Initiative (DCOI) (25 Jun 2019)

<https://www.whitehouse.gov/wp-content/uploads/2019/06/M-19-19-Data-Centers.pdf>

Public Laws

Clinger-Cohen Act See Public Law 104-106 and Federal Acquisition Reform Act

104-106 National Defense Authorization for Fiscal Year 1996, Division E,  
Information Technology Management Reform (Feb 1996)  
aka  
Information Technology Management Reform Act of 1996

<https://www.govinfo.gov/content/pkg/PLAW-104publ106/html/PLAW-104publ106.htm>



107-347 Federal Information Security Modernization Act of 2002 (FISMA2002)

<https://www.govinfo.gov/app/details/PLAW-107publ347/>

109-114 Military Quality of Life and Veterans Affairs Appropriations Act, 2006

<https://www.govinfo.gov/content/pkg/PLAW-109publ114/html/PLAW-109publ114.htm>

Establish the VA Information Technology Systems appropriation, into which IT resources from VHA, NA, and VBA were consolidated.

109-461 Veterans Benefits, Health Care, and Information Technology Improvement Act

<https://www.govinfo.gov/app/details/PLAW-109publ461>

113-283 Federal Information Security Modernization Act of 2014 (FISMA2014)

<https://www.govinfo.gov/app/details/PLAW-113publ283>

113-291 National Defense Authorization Act (FY2015) (NDAA2015)

<https://www.govinfo.gov/app/details/PLAW-113publ291/>

113-291 Title VIII, Subtitle D

Federal Information Technology Acquisition Reform [Act] (FITARA)

<https://www.govinfo.gov/app/details/PLAW-113publ291/>

#### VA Budget Requests and Congressional Hearings; GAO Reports; OIG Reports

While specific citations and excerpts are not provided herein, these publicly available records provided valuable background on the evolution of OIT authority and organization, from Public Law 104-106 to present.

#### VA Directives

6004 Configuration, Changes, and Release Management Programs (28 Sep 2009)

[https://www.va.gov/vapubs/viewPublication.asp?Pub\\_ID=891&FTYPE=2](https://www.va.gov/vapubs/viewPublication.asp?Pub_ID=891&FTYPE=2)

6008 Acquisition and Management of VA Information Technology Resources (02 Nov 2017)

[https://www.va.gov/vapubs/viewPublication.asp?Pub\\_ID=891&FTYPE=2](https://www.va.gov/vapubs/viewPublication.asp?Pub_ID=891&FTYPE=2)

6051 Department of Veterans Affairs (VA) Enterprise Architecture (08 Apr 2016)

[https://www.va.gov/vapubs/viewPublication.asp?Pub\\_ID=891&FTYPE=2](https://www.va.gov/vapubs/viewPublication.asp?Pub_ID=891&FTYPE=2)



VA Electronic Health Records Modernization (EHRM) Policy

Cabling Infrastructure Memorandum (23 Sep 2019)

[https://dvagov.sharepoint.com/sites/VACO.OEHRMoffice/Misc/SitePages/Construction\\_Admn.aspx](https://dvagov.sharepoint.com/sites/VACO.OEHRMoffice/Misc/SitePages/Construction_Admn.aspx)

This is an access-controlled VA intranet site.

