Digital Metrology
Standards Consortium

DMSC

What is New for QIF?

Jennifer Herron, Founder & CEO

FOUNDER & CEO

Jennifer Herron (She/Her)

EXPERTISE

B.S. in Mechanical Engineering

M.S. in Computer Engineering

- Advised **180+** organizations
- Strategic MBD and MBE Implementation Coaching
- MBD and MBE Solution Architecture
- MBD Pilot Planning
- MBD Modeling Standards and Best Practices
- Multi-CAD MBD and GD&T Authoring and Publishing
- MBD Supply Chain Readiness Coaching
- MBD-related software tool testing

CREDENTIALS

- Board Member, Digital Metrology Standards Consortium (DMSC), QIF
- ASME Y14 Series, Voting Member
- ASME Y14.46 Additive Manufacturing Product Definition, Voting Member
- ISO 10303 TC 184, DMSC Liaison
- AIAG TDP, Voting Member
- Dare to Lead Certified
- Certified Scrum Product Owner®, Scrum Alliance
- Patent for Toroidal Propulsion and Steering System (Snake)

PUBLICATIONS

- *Re-Use Your CAD: The Model-Based CAD Handbook* – 2nd Ed. & 1st Ed.
- Industry Blogs

QUOTE

If you are going to CHANGE the results of your business, you have to change the WAY you do business.

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About the DMSC and QIF

Who is the DMSC?

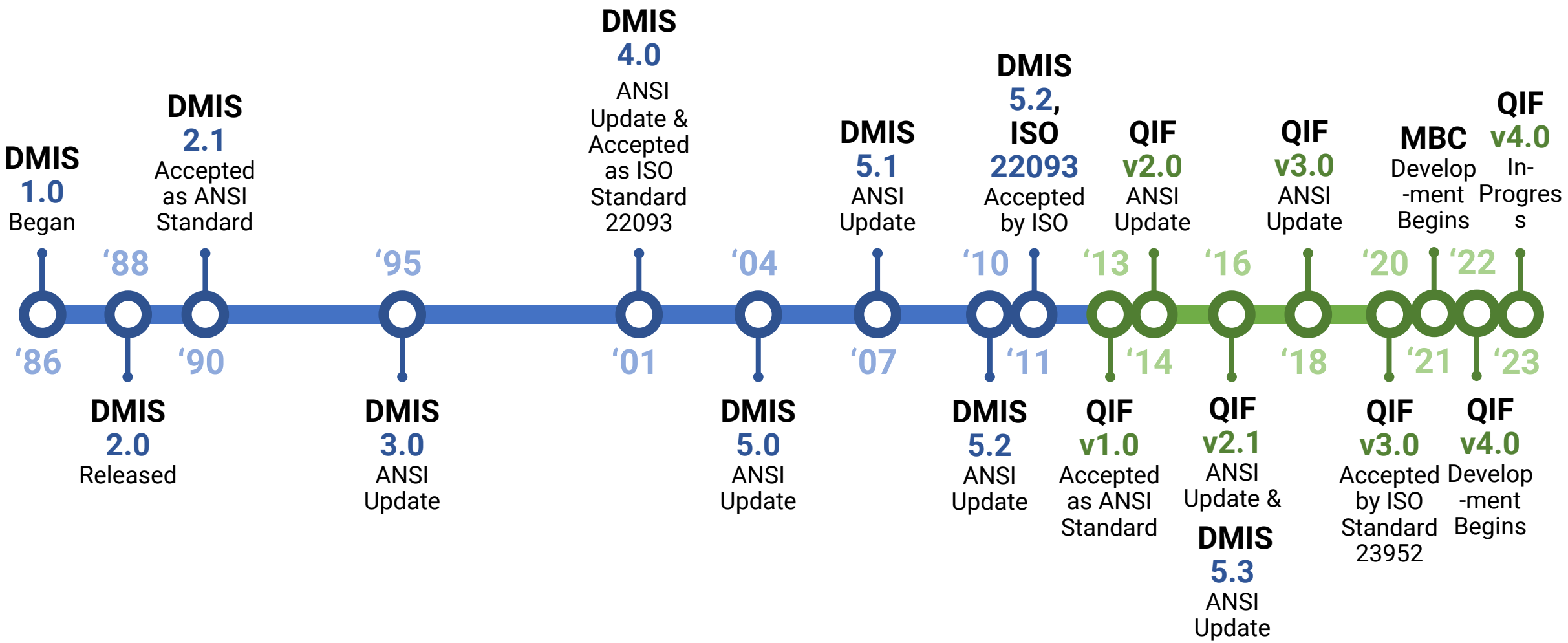
We provide a standardized, **interoperable** data framework for manufacturing.

We create Quality Standards that **impact** the **digital thread** through **digital metrology** and interoperability.

The DMSC is ANSI Accredited and ISO TC184 SC4 A-Liaison

qifstandards.org

DMSC's Quality Standards Pedigree



Quality Information Framework (QIF)

Dimensional Measuring Interface Standard (DMIS)

ISO 22093:2011 – Industrial automation systems and integration – Physical device control – Dimensional Measuring Interface Standard (DMIS)

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ISO/ANSI/DMSC QIF 3.0 - 2018

ISO/TC **184**/SC **4** Secretariat: **ANSI**

Voting begins on: **2019-07-22** Voting terminates on: **2019-10-14**

Quality information framework (QIF) — An integrated model of manufacturing quality information

ICS: 25.040.40

PREVIEW

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

This document is circulated as received from the committee secretariat.

FAST TRACK PROCEDURE

Reference number
ISO/DIS 23952:2019(E)

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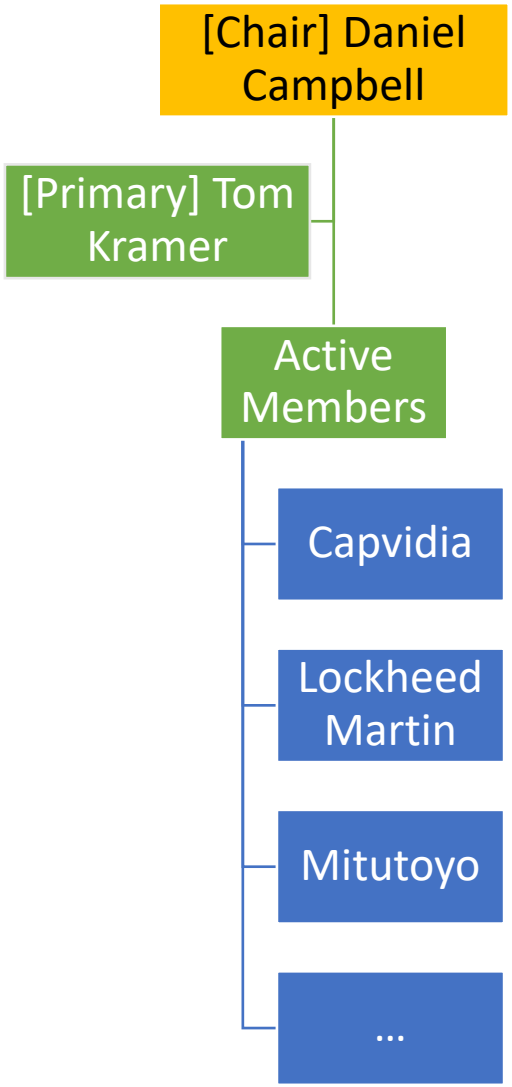
- **Sent to Resolution M:** November 2018
  - ISO / TC 184 / SC 4 approved by “Unanimous Consent” for Fast Track Ballot

- **ISO Approved:** July 2020
  - Approved and entirely harvested the ANSI/DMSC QIF v3.0 standard
  - Changed only the cover-sheet, copyright, headers, and footers
  - Includes an Explanatory report for harvesting QIF 3.0 into the ISO TC184 / SC4 Working Group 15 on Digital Manufacturing
  - Includes a mapping of entities found between STEP-AP 242 and QIF.

QIF 4.0 Development



Status	Item	QIF Information Model Area Implemented in
Done	Improved UUID usage through references	All
Done	The term QPId is being retired	All
Done	Increased unit usability and quantity, includes SI units	All
Done	Improved assignment capability for identifying a standard at the characteristic level	Instance File
Pending MBC Release	Updates based on Model-Based Characteristics (MBC) Standard	All
In-Progress	Improve constraint handling with XSLT	QIF Library
In-Progress	Improvements on existing content	QIF Plan
In-Progress	Adding optical digitizer measurement devices	QIF Resources

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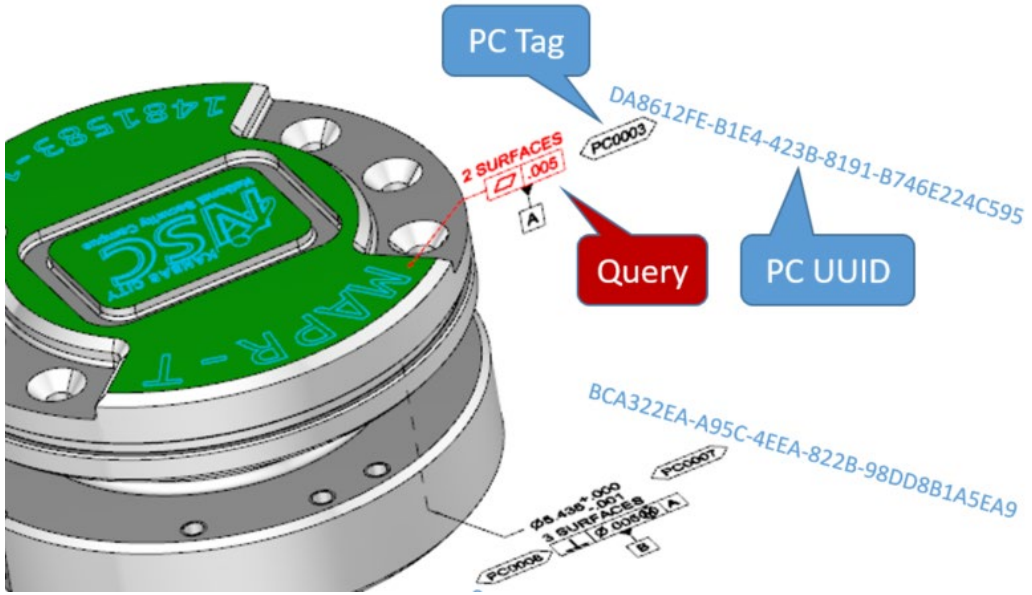
Model-Based Characteristics (MBC)

Why: Address the gap in MBD (Model-Based Definition) of the identification, nomenclature and representation of Product Characteristics (PC) and their optional augmentations

What: A new DMSC standard that provides a common approach for tagging and uniquely identifying product characteristics and their criticality

- Nomenclature
- Definitions
- Symbols
- Data Structures
- Practices for Product
- Process
- Service Definition

Definition: The PC Reference Tag (PC Tag) shall be used as the core unique visual identifier and this standard extends the PC designation core with optional augmentations.



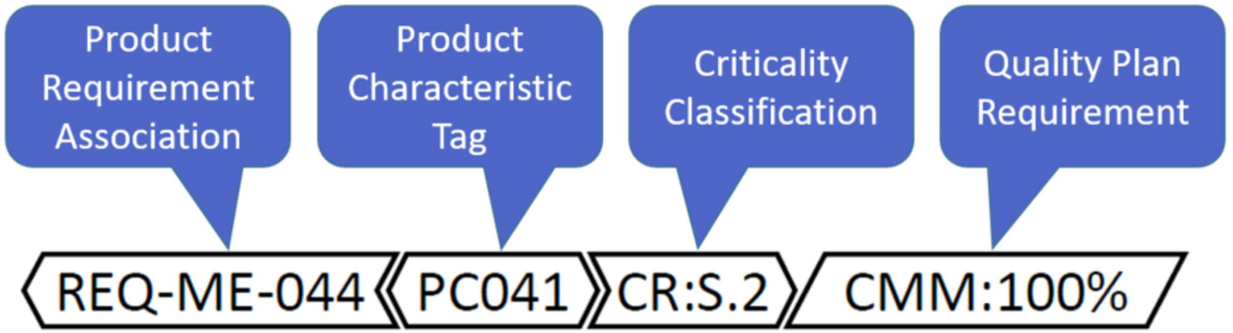


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Figure 4: Product Characteristic Tag with All Augmentations

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In Conclusion

Impacting the Digital Thread with Quality

- QIF impacts Industry 4.0 & digital thread through quality interoperability
- QIF is a global standard
- QIF creates and defines containers for digital metrology storage and communication
- QIF's standardized containers simplify machine-to-machine connections
- The DMSC is harmonizing with adjacent standard organizations and is seeking broader engagement with all related standards organizations.

Join Us

- DMSC General Membership Meeting
  - 20 July, 2023
  - Meeting details

SCAN ME

- QIF 4.0 Working Group Meetings

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- All Working Groups

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- DMSC Membership
  - Benefits Summary

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  - Membership levels & application

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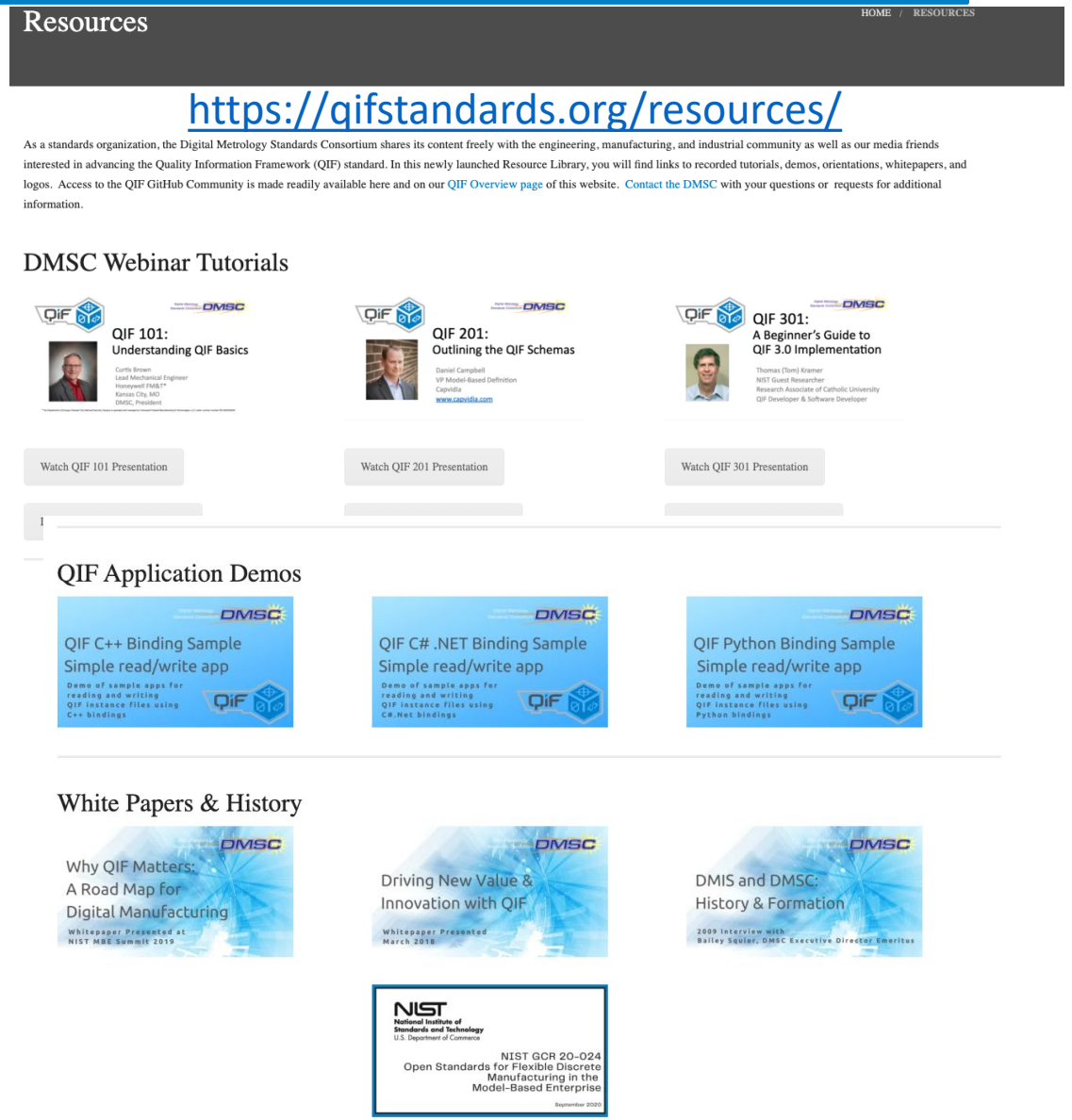
Resources for Accessing QIF Information

QIF on the Web

qifstandards.org



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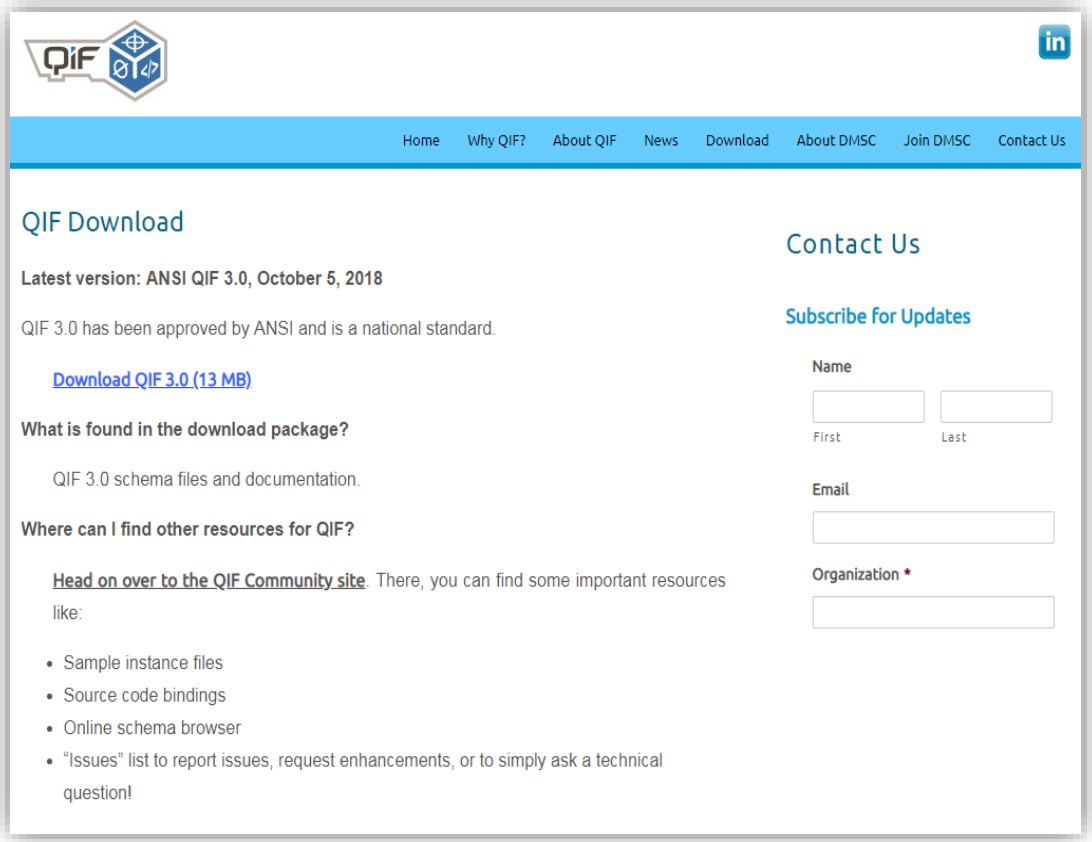
QIF on the Web (continued)

Download QIF

http://qifstandards.org/download/



QIF Community - GitHub

https://qualityinformationframework.github.io/

- QIF Schema Browser
- QIF Sample Instance Files
- Source Code Bindings
- QIF "Issues" List
- QIF Standard Website
- Getting Started Video

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