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Looking at the Datacenter Landscape - Update on Datacenter Standards & Future Trends

Presented by:

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Agenda

Standards

1. Why
2. What
3. How



Update on Data Centre Facilities Standards



Future Trends



Closing Remarks





Update on Data Centre Facilities Standards



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Standards

1. Why
2. What
3. How



Why do we need standards?

- Standards assist in creating a *verifiable* quality framework
- **When done right**, it ensures a transparent and verifiable framework where quality is consistently and constantly benchmarked
- Data centre owners and their customers are in need to have standards to set the right expectations to the business in terms of availability, capability and capacity as part of their risk management strategy

What is a 'Standard'?

- Unfortunately, the term 'Standard' is used very loosely in the data centre market
- Theoretically any documented reference point could be considered as a standard if you follow the dictionary description
- Standard organizations have a different view on what is a "true standard"



How: Standards development requirements

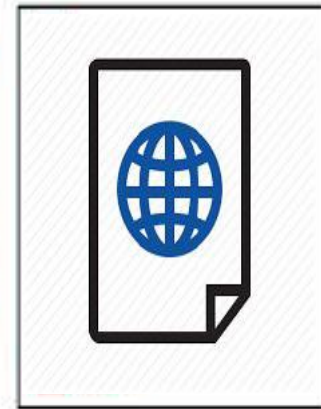
1. Due process
2. Openness
3. Balance
4. Consideration of views/objections
5. Consensus vote and reconsideration
6. Appeals

Standard Development Process

- Member Companies and Participants Vote & Comment

- Public may submit Comments

Drafts → Votes → Public Review → Votes → Publish

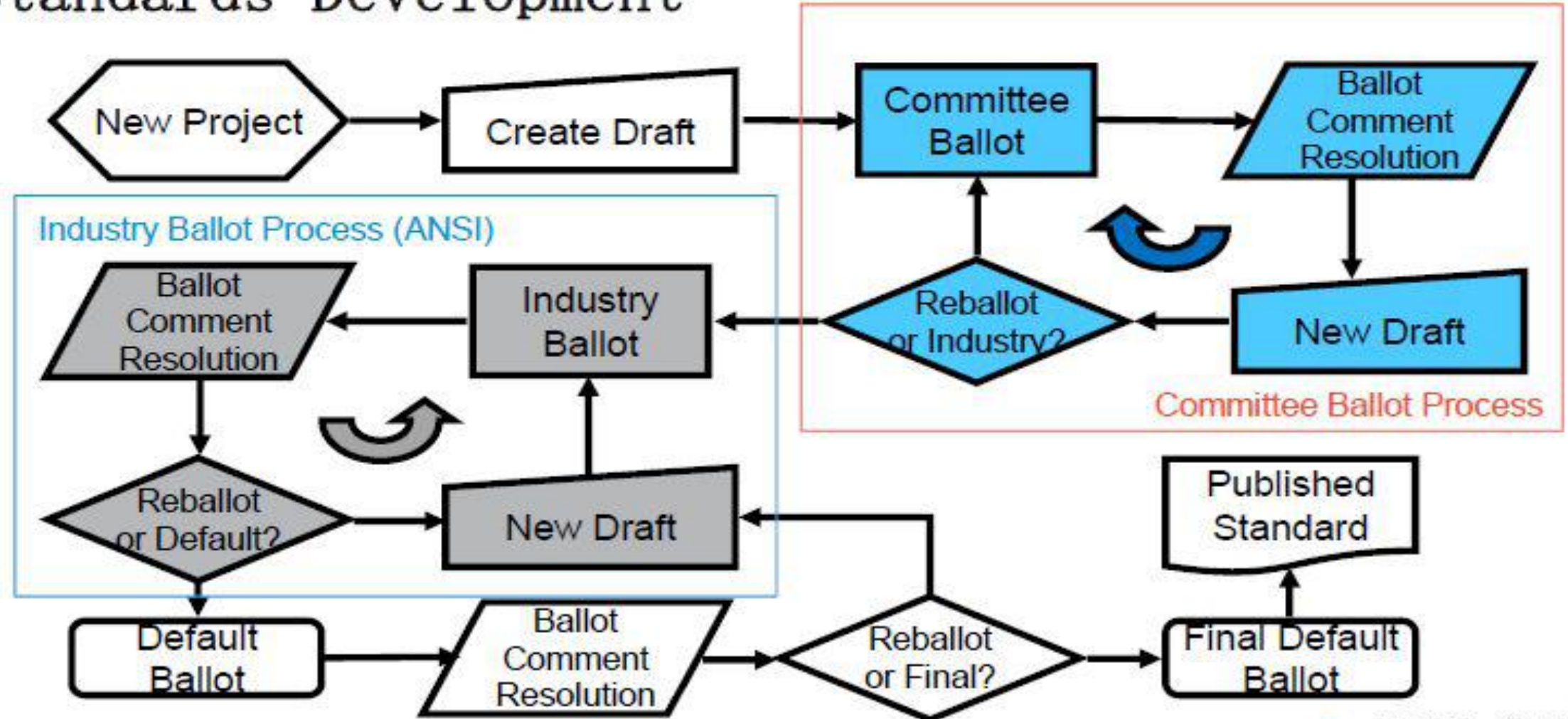


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Standard Development Process

Standards Development



Standard “Maintenance”

- ANSI/ISO requires periodic maintenance on the standards
- Most standards have a 5-year cycle
- Outcome of maintenance review;
 1. Revise
 2. Reaffirm
 3. Withdraw



Update on Data Centre Facilities Standards



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Data Centre Guideline/Standards

	Uptime®	TIA-942	BICSI-002	EN-50600
Origin	USA	USA	USA	Europe
Main scope of Topology Guideline or Standard	Electrical Mechanical	Electrical Mechanical Architectural Telecom Site location Safety Security Efficiency	Electrical Mechanical Architectural Telecom Site location Safety Security Efficiency	Electrical Mechanical Architectural Telecom Site location Safety Security Efficiency
Type of Conformity	Tier (I-IV)	Rated (1 – 4)	Class (F0 – F4)	Class (1 – 4)
Detailed Spec public. avail.	No (high level guideline)	Yes (Standard document)	Yes (Standard document)	Yes (Standard document)

Data Centre Guideline/Standards

	Uptime ®	TIA-942	BICSI-002	EN-50600
Type of organisation	\$\$ Commercial	Non-profit	Non-profit	Non-profit
Official Standard Development Organisation	No	Yes ANSI	Yes ANSI	Yes EN CENELEC
Accreditation scheme	No	Yes	No	No
Certified data centres	Yes	Yes	No	Yes
Auditors	Uptime only	Multiple organisations	n/a	Multiple organisations



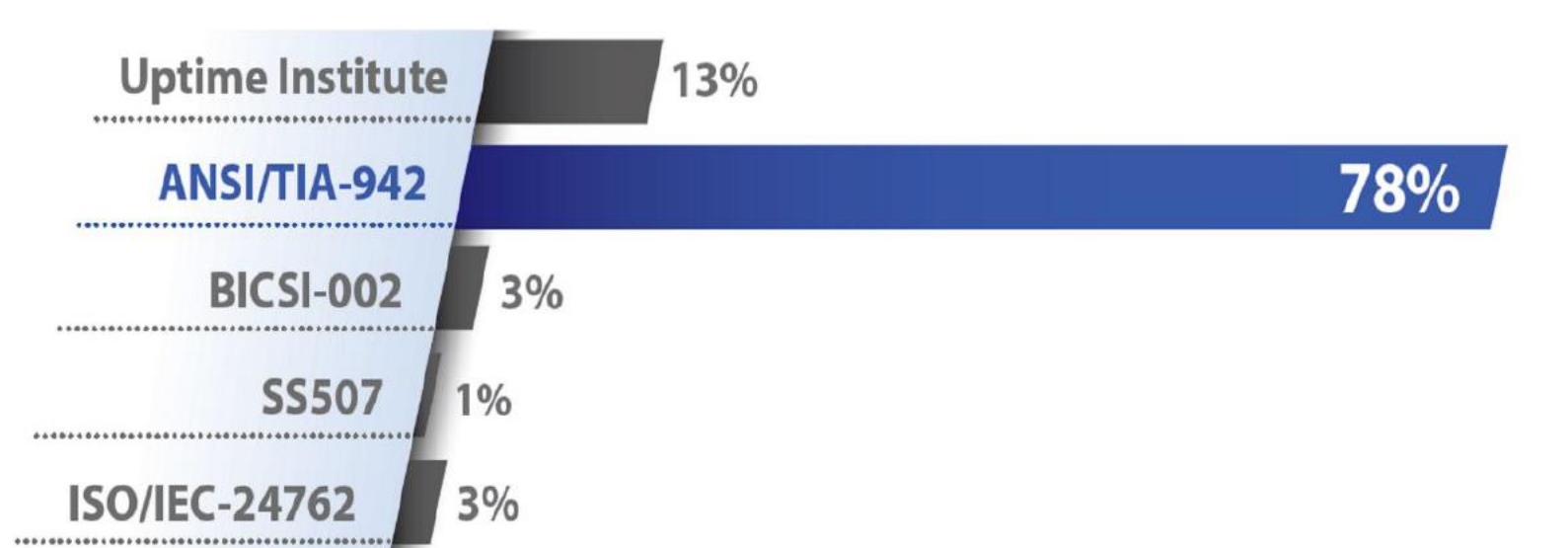
New entrants who tried, and failed...

- Switch; Tier-5 Standard
- UL; UL 3223
- IDCA: Infinity Paradigm



The Adoption of Standards

- A global survey indicated that 78% of the respondents use the ANSI/TIA-942 as the standard of choice when designing and building their data centres



LinkedIn survey data centre professionals



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What has changed?

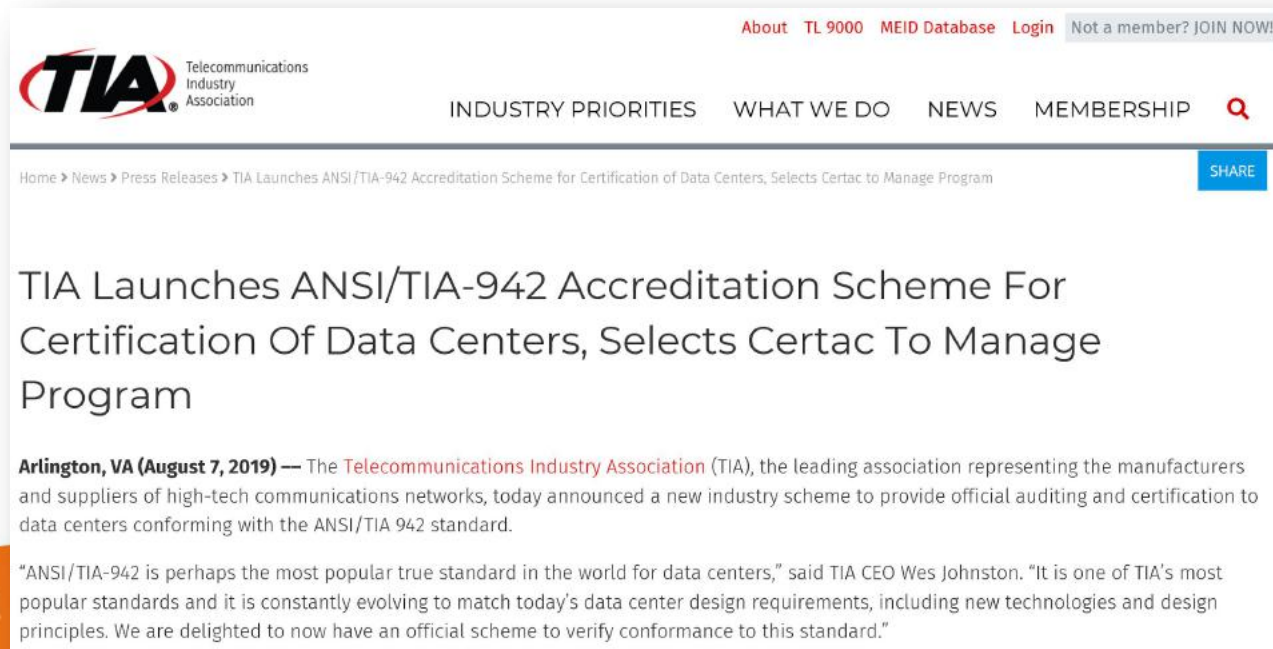
- Uptime Tier Guidelines;
 - No change (2018 is latest revision)
- BICSI-002;
 - New revision brought to the market in 2019
 - Includes more coverage of heat rejection and cooling systems,
 - Provisioning of Lithium-ion batteries,
 - Colocation planning,
 - Support for Open Compute Project® concepts and infrastructure,
 - Expansion of the commissioning process.
 - Removal of data center operations related content
 - BICSI 009-2019.

What has changed?

- EN-50600;
 - Creation of ISO-TS-22237
 - TS = Not a Standard (yet). A Technical Specification addresses work still under technical development, or where it is believed that there will be a future, but not immediate, possibility of agreement on an International Standard.
 - A Technical Specification is published for immediate use, but it also provides a means to obtain feedback.
 - The aim is to eventually transform it as an International Standard if there is enough support.

What has changed?

- ANSI/TIA-942;
 - Latest version TIA-942-B:2017
 - An addendum is in the works, slated for release in 2022 addressing Edge Data Centre requirements
 - Aug-2019 TIA launched the official ANSI/TIA-942 Accreditation scheme



The screenshot shows the top portion of a TIA website page. At the top right, there are links for 'About', 'TL 9000', 'MEID Database', 'Login', and 'Not a member? JOIN NOW!'. The TIA logo is on the left, with the text 'Telecommunications Industry Association'. A navigation menu includes 'INDUSTRY PRIORITIES', 'WHAT WE DO', 'NEWS', and 'MEMBERSHIP'. Below the navigation is a breadcrumb trail: 'Home > News > Press Releases > TIA Launches ANSI/TIA-942 Accreditation Scheme for Certification of Data Centers, Selects Certac to Manage Program'. A blue 'SHARE' button is on the right. The main heading of the article is 'TIA Launches ANSI/TIA-942 Accreditation Scheme For Certification Of Data Centers, Selects Certac To Manage Program'. The first paragraph of the article reads: 'Arlington, VA (August 7, 2019) — The Telecommunications Industry Association (TIA), the leading association representing the manufacturers and suppliers of high-tech communications networks, today announced a new industry scheme to provide official auditing and certification to data centers conforming with the ANSI/TIA 942 standard.' A quote from TIA CEO Wes Johnston follows: 'ANSI/TIA-942 is perhaps the most popular true standard in the world for data centers,' said TIA CEO Wes Johnston. 'It is one of TIA's most popular standards and it is constantly evolving to match today's data center design requirements, including new technologies and design principles. We are delighted to now have an official scheme to verify conformance to this standard.'

What has changed?

- ANSI/TIA-942 accreditation model



- SDO – Standards Development Organization
- TIA-942 Scheme owner
- Developed and maintain the standard



- Program Manager and Accreditation Body
- Audits CABs
- Management of the certification register
- Maintenance of www.tia-942.org



/ Others

- Conformity Assessment Body (CAB) a.k.a. CB Certification Body
- Conduct audit & Certification
- Submit to Certac for approval



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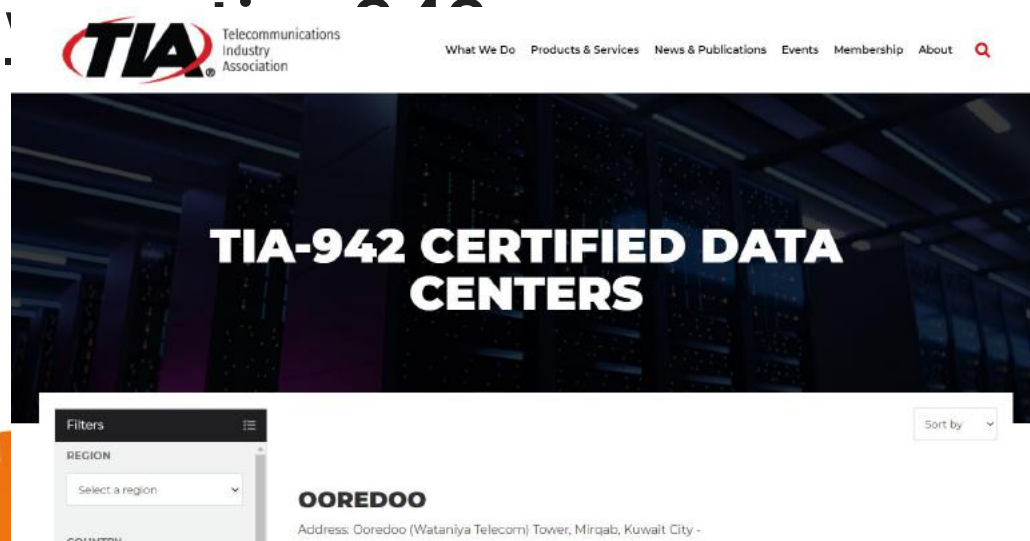
TIA-942 is Unique!

- ANSI/TIA-942 is the **ONLY** accredited data centre certification scheme covering the data centre facilities
- No other “data centre certifications” are accredited nor have certificates issued by a Registered Certification Body








Proud to announce

- EPI (EPI Certification Pte Ltd has been awarded the first, and currently the only, Accredited ANSI/TIA-942 CAB – Conformity Assessment Body
- More information about TIA-942 is available at;



Not only facilities...

 <p>Telecommunications Industry Association</p> <p>ANSI/TIA-942</p>	<p>EUROPEAN NORM</p>  <p>EN-50600</p>	 <p>ISO 9001 ISO 14001 ISO 14644 ISO 20000 ISO 22237 ISO 22301 ISO 27001 ISO 37001 ISO 45001 ISO 50001</p>
 <p>SS 506 SS 507 SS 564 SS 577 SS 584</p>	 <p>DCOS</p>	



Future Trends

Future trends



Adoption of Cloud computing continues with hybrid being a key strategy



AI – Often an abused word. True AI will add value with cooling being the first target



Mobility and 5G create both challenges and opportunities



New competences are required. Skill gaps are widening

Future trends influence standards

Technology and new business models such as cloud computing should, and do, influence standards

1. ANSI/TIA-942 will get an addendum for Edge Computing
2. TIA is working on a 'Network Assurance' standard to support for critical (5G) networks

Remote surgery, autonomous cars etc.

Future trends influence relations

- With outsourced and hybrid IT/Data centre environments management control is shifting from fully owned to shared ownership/partnerships
- Service Level Agreements are not able to fully take all risks away
- Its important as a customer/end-user to ascertain that a data centre is not posing a risk for the business
- Standards provide an additional level of risk management



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Standards should cover all disciplines



EPI - IT & Data Center Framework[©]

IT & Data Center Strategy

CSF Analysis, Business Systems Planning

Governance, Risk, Compliance & Quality

ISO/IEC 38500, ISO 31000, ISO/IEC 27005, DCOS

IT & Data Center Organization

ISO/TC 260, DCOS

Data Center Operations Management

DCOS

Customer

Service Management

ISO/IEC 20000, DCOS

Safety & Crisis Management

OHSAS 18000, DCOS

Security Management

ISO/IEC 27001, DCOS

Project Management

PRINCE2, PMBOK, Agile, DCOS

IT Management

ISO/IEC 20000

IT Infrastructure

EN 15221

Facilities Management

EN 15221, DCOS

Data Center Infrastructure

ANSI/TIA-942

Environmental Sustainability

ISO/IEC 14000, ISO 50001, DCOS

Monitoring/Reporting/Control

ISO/IEC 9001, DCOS

Information Management

IMBOK, DMBOK

BC/DR

ISO/IEC 22301, DCOS

BCM

ISO 22301, DCOS

Organizational Resilience



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Important questions

When using an outsourced data centre provider make sure you ask a few very important questions:

1. Is the data centre facility certified?
 - Which standard and is it covering all aspects?
 - Is the data centre design certified or site/facilities certified
2. Is the data centre operations certified
 - Which standard and is it covering all aspects?
 - Is it pass/fail or does it allow for progressive improvement?

11 Disciplines Covered by EPI-DCOS® *DCOS*

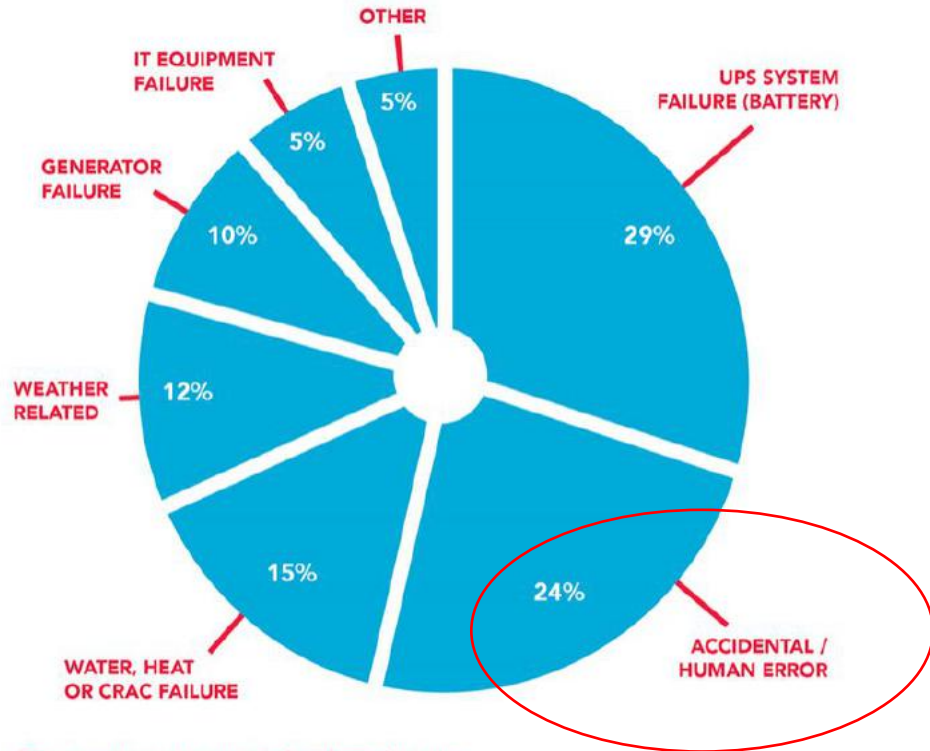
1. Service Level Management
2. Organization
3. Safety Management
4. Security Management
5. Project Management
6. Facilities Management
7. Data Centre Operations
8. Environmental Sustainability
9. Monitoring/Reporting/Control
10. Organizational Resilience
11. Governance, Risk and Compliance



Important questions

3. How does the data centre upkeep the staff competences?
 - Does the data centre have a structured training program in place for their staff?
 - Are training programs closed with an impartial exam?
 - Are the training programs impartially accredited?

Human Error

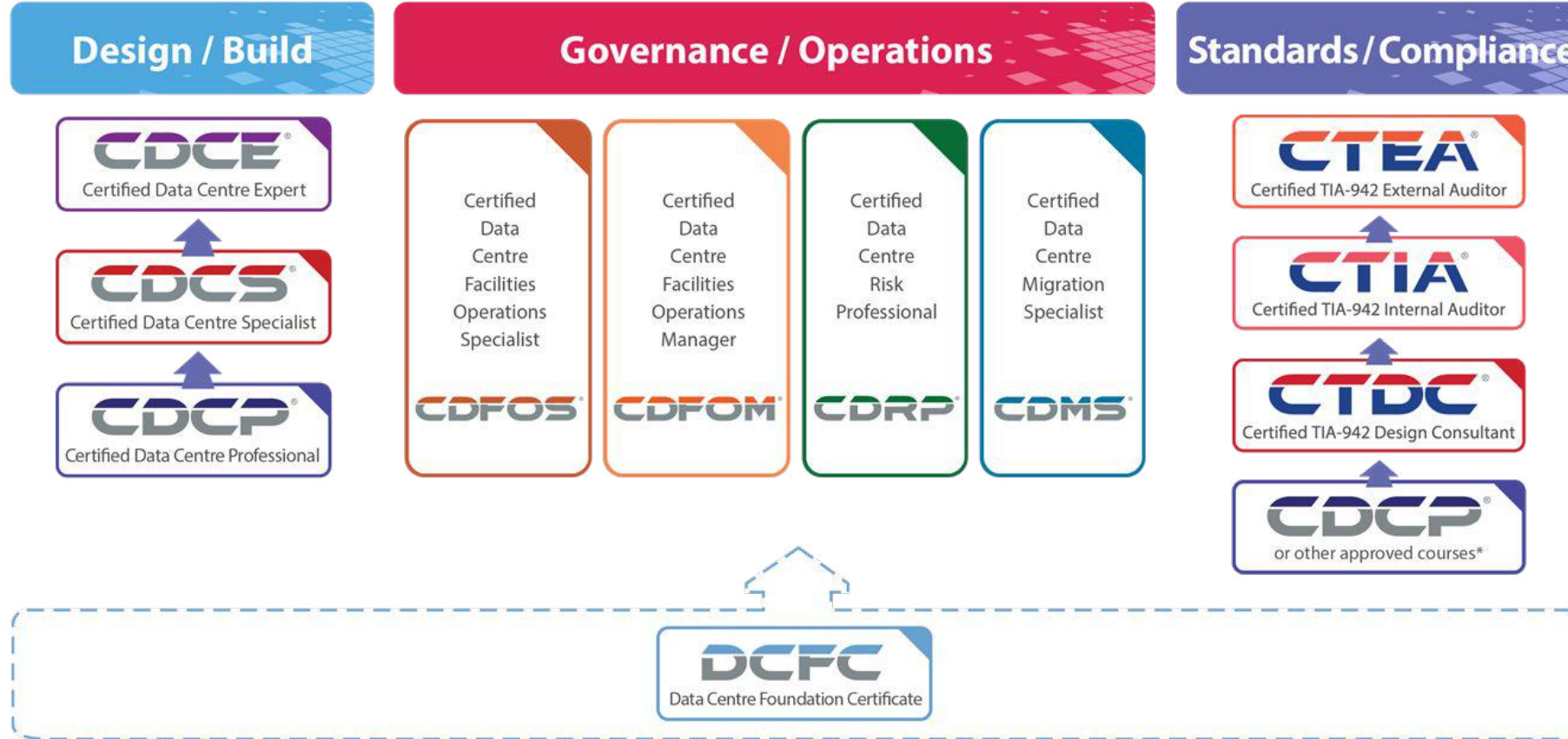


Primary root causes or reported unplanned outages.

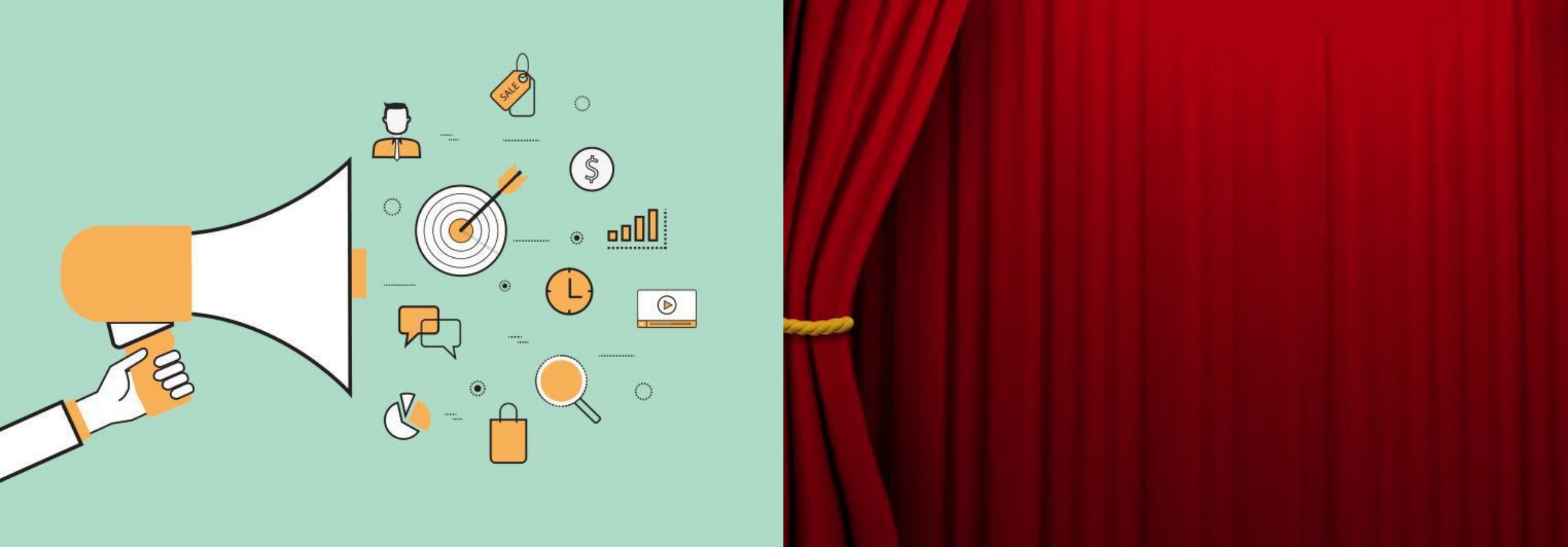
- A large portion of data centre downtime is caused by maintenance and operational processes.
 - Even a Rated-4 data centre with poor operational and maintenance processes can go down!



EPI Data Centre Training Framework[®]



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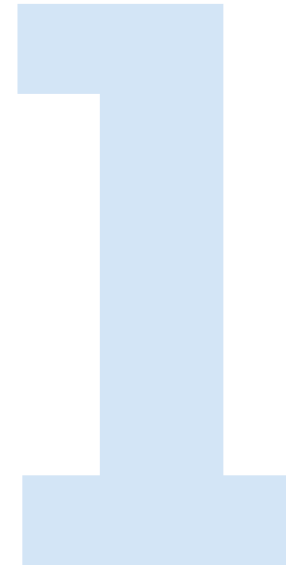


Closing Remarks

Change Change Change

The world markets are changing and so is the IT and Data Centre market and at an ever increasing pace...

Business as usual doesn't exist!



(Some) Standards are evolving

Standards should, and are, evolving ensuring (new) business and technologies are embraced and quality benchmarks are maintained

2

TIA-942 is leading

TIA-942 is leading as it is currently the ONLY true data centre standard which has a full accreditation scheme protecting data centre investor/owners

3

Future trends

Future trends will require standards to evolve to ensure the quality benchmark remains valid



Ask the important questions

Ask the three important questions when using outsourced providers

- Facility certification
- Operations certification
- Staff certification

5

Questions?



Thank You!

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