

## Development of Cloud Interoperability & Portability Standards – Govt. mandate

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- ▶ Work initiated in January 2018 under DOT mandate
  - ▶ Interoperability between clouds
  - ▶ Data transfer
  - ▶ Security
  - ▶ Interoperability Test Bed
- ▶ Joint TSDSI-CCICI workgroup
  - ▶ Academia (PES University, ...)
  - ▶ Industry bodies (NASSCOM)
  - ▶ Government (TSDSI, CDAC, ...)
  - ▶ Industry (Reliance Jio, Huawei, VMWare, IBM, Samsung, ...)



# OVERVIEW...

- ▶ Interim report has been sent to DOT
  - ▶ Review of existing standards
  - ▶ Gap analysis
  - ▶ Methodology
- ▶ 2 interim reports to be sent to DoT in Q1 2019
  - ▶ Partial draft standards
  - ▶ Initial proposal for Interoperability Test Bed
- ▶ Phase 2 and Phase 3 reports in coming year
  - ▶ Final standards, to be submitted to DoT from TSDSI
  - ▶ Final Interoperability Test Bed Proposal



...OVERVIEW

- ▶ Objective: Develop India-relevant standards
- ▶ Bottom-up approach: define India-relevant use cases
  - ▶ E.g., use cases around privacy and secure computation
- ▶ Review existing Interoperability / Portability Standards
  - ▶ Leverage work being done globally
- ▶ Gap analysis
- ▶ Creation of India-relevant standards
- ▶ Define test cases and test bed architecture
- ▶ Submission of recommendations to DoT/TRAI.

# METHODOLOGY OVERVIEW



- ▶ Many government departments have legacy data centers that cannot be easily migrated to clouds
- ▶ However, new cloud applications may need access to data and services in legacy centers



## EXAMPLE: LEGACY DATA CENTER INTEGRATION...

- ▶ Data portability
- ▶ Security infrastructure
- ▶ ...others



# EXAMPLE: LEGACY DATA CENTER INTEGRATION (REQUIREMENTS) ...

- ▶ Data portability
  - ▶ XML – widely used standard
  - ▶ JSON – more efficient
  - ▶ ASN.1 – used in telecom and cryptography
- ▶ Security infrastructure
  - ▶ Oauth
  - ▶ ...others



## EXAMPLE: LEGACY DATA CENTER INTEGRATION (STANDARDS) ...

**Thank You**

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