ITU-TRCSL Symposium on Cloud Computing

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Architecture, Management, Cloud Interoperability, Security

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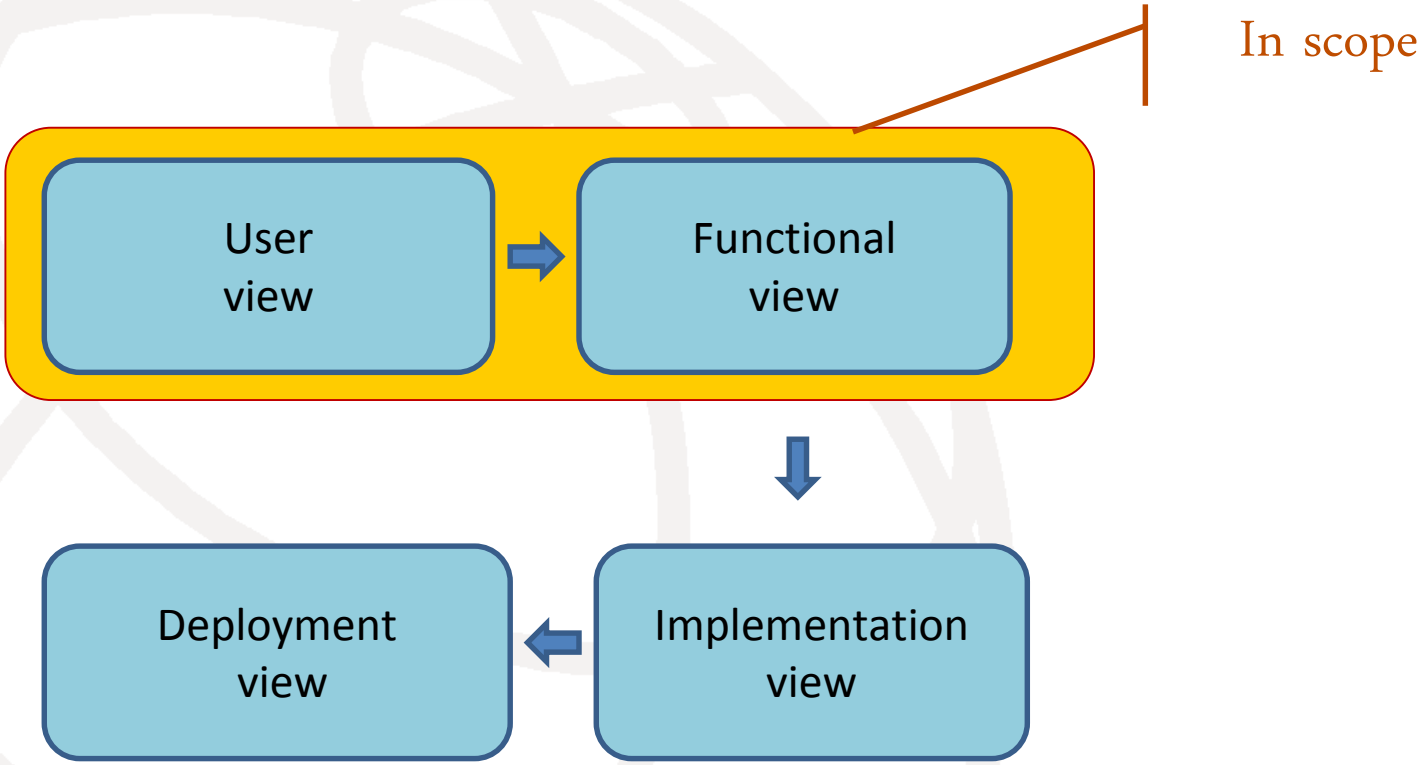
Outline

1. Cloud Functional Reference Architecture
2. Inter-Cloud and Cloud Management
3. Security of Cloud Computing

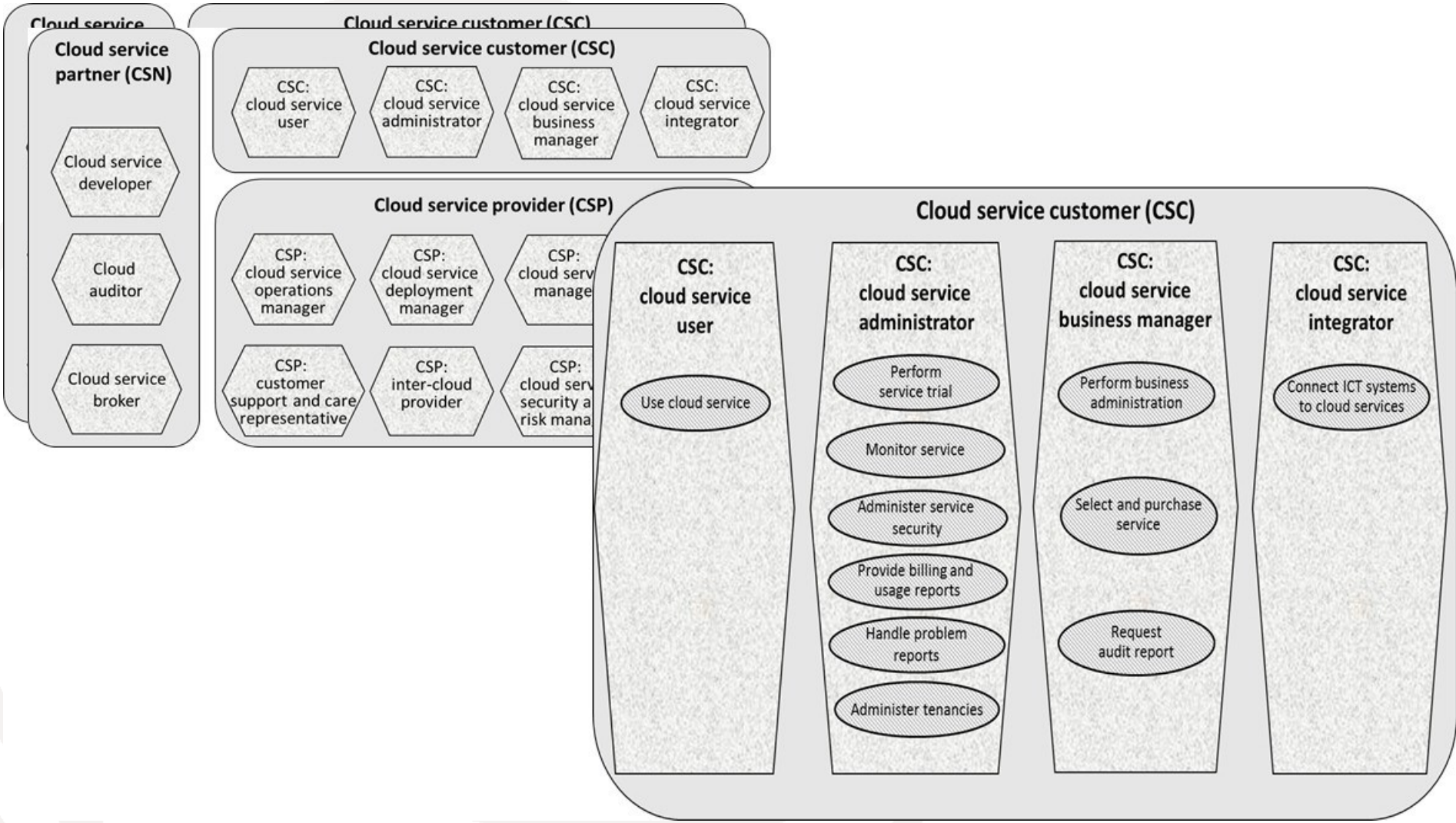
1

Cloud Functional Reference Architecture

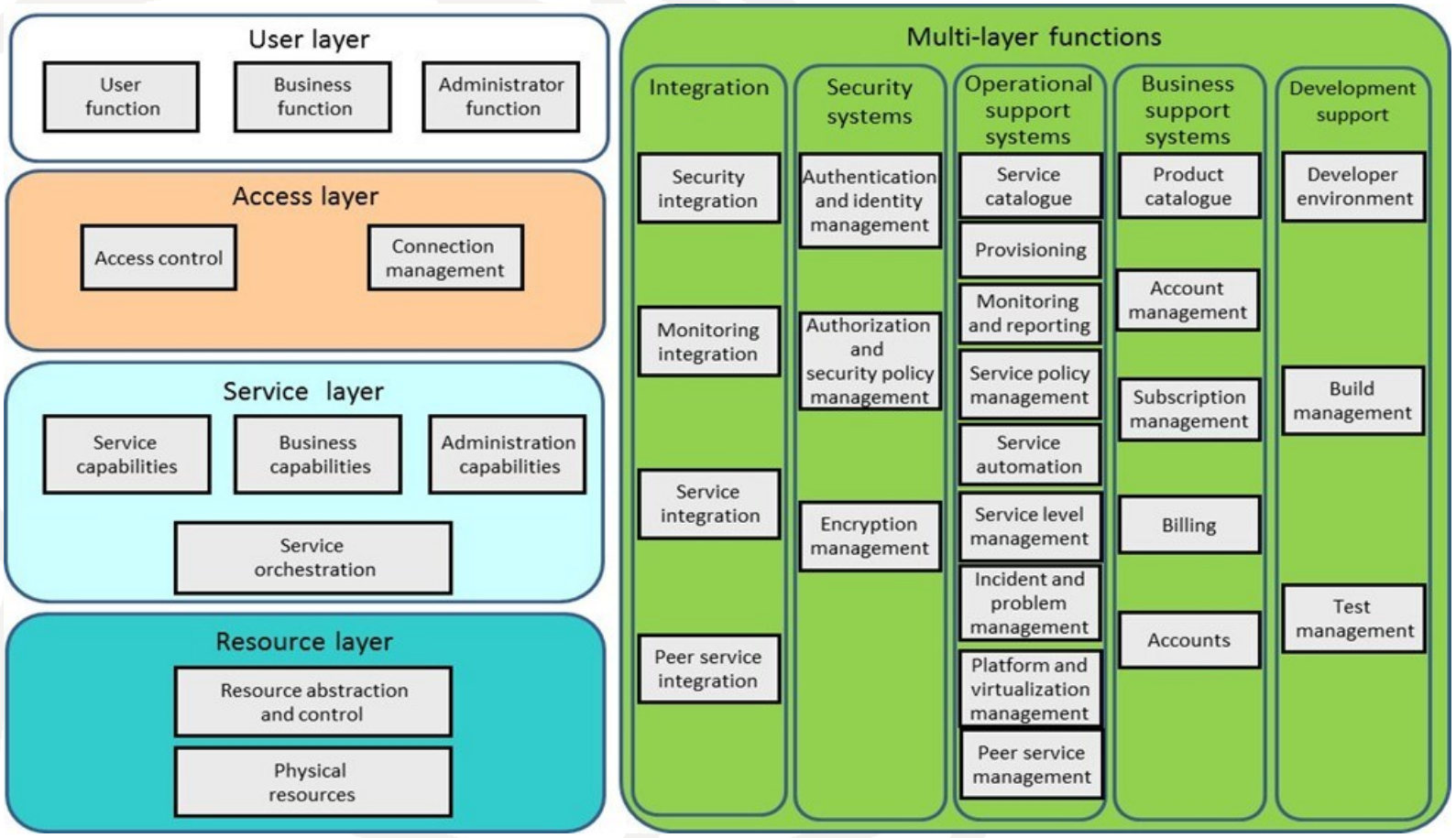
CCRA architectural views (Y.3502)



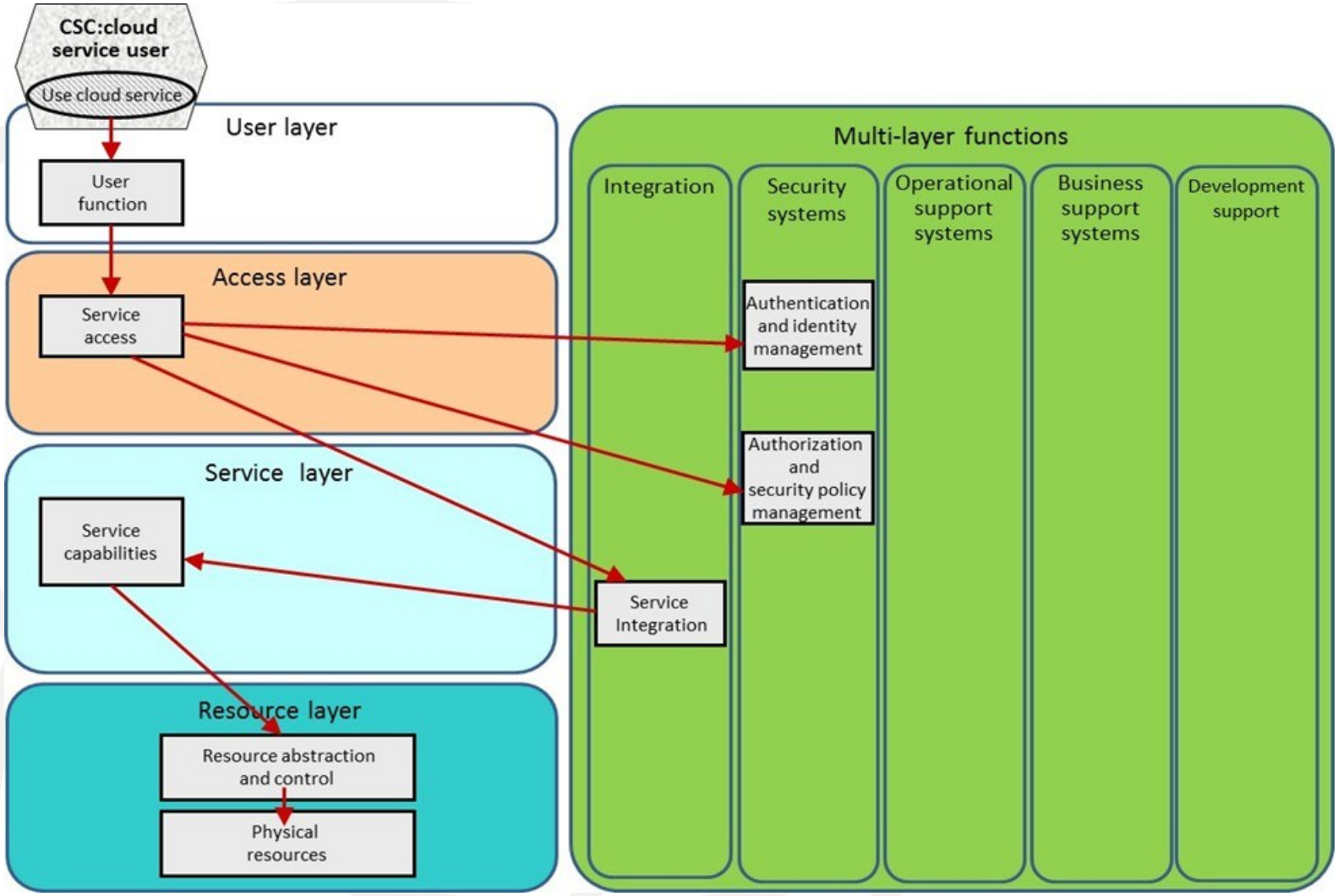
CCRA user view (activities)



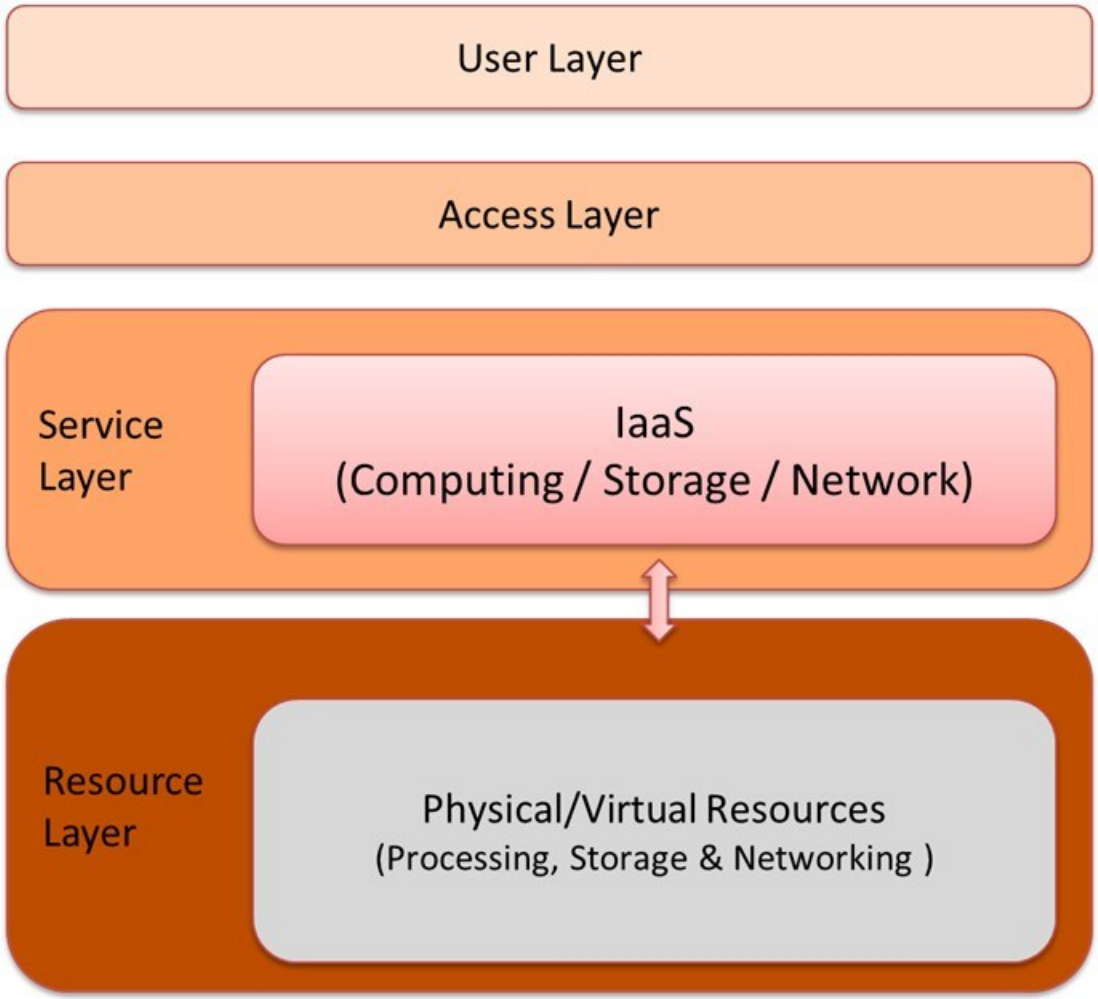
CCRA functional view- functional architecture/ -components



User/ Functional View Relationship



Infrastructure as a Service (Y.3513)

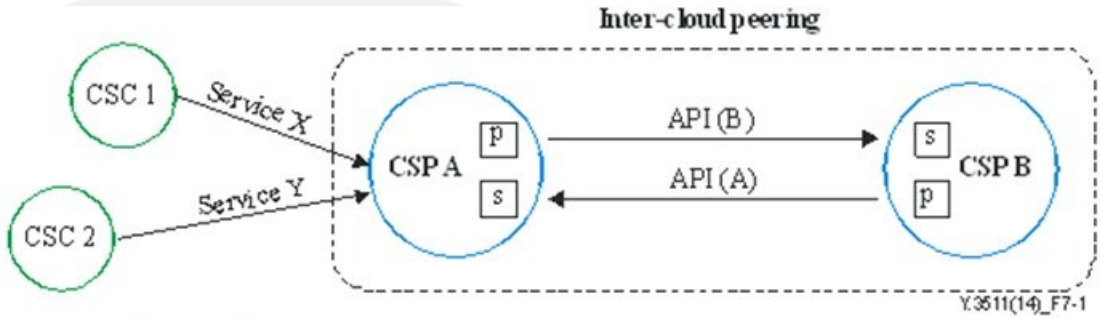


- **computing service functions** allow CSC to provision and use processing resources.
- **storage service functions** allow CSC to use storage resources..
- **network service functions** allow CSC to use networking resources.

2

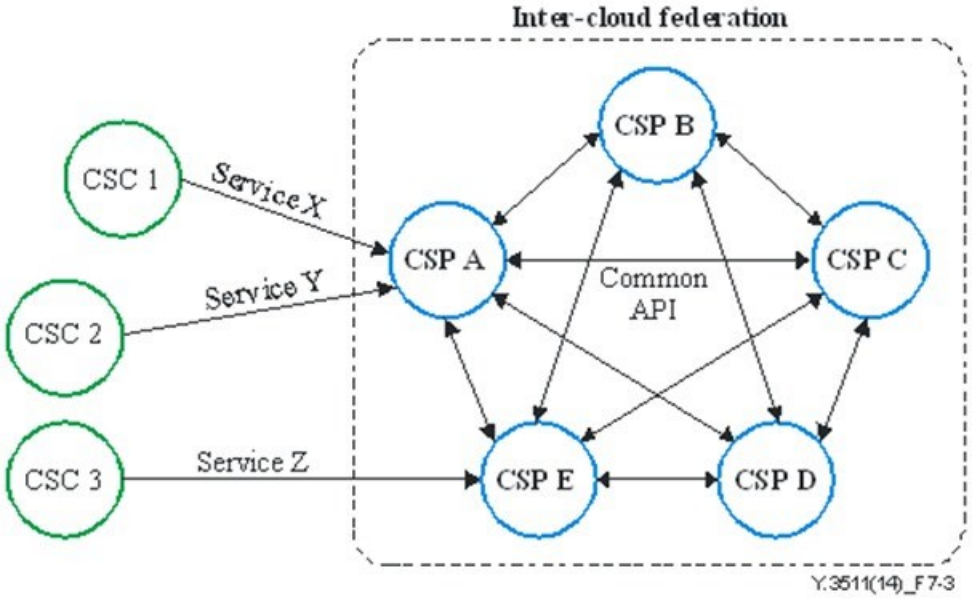
Inter-Cloud and Cloud Management

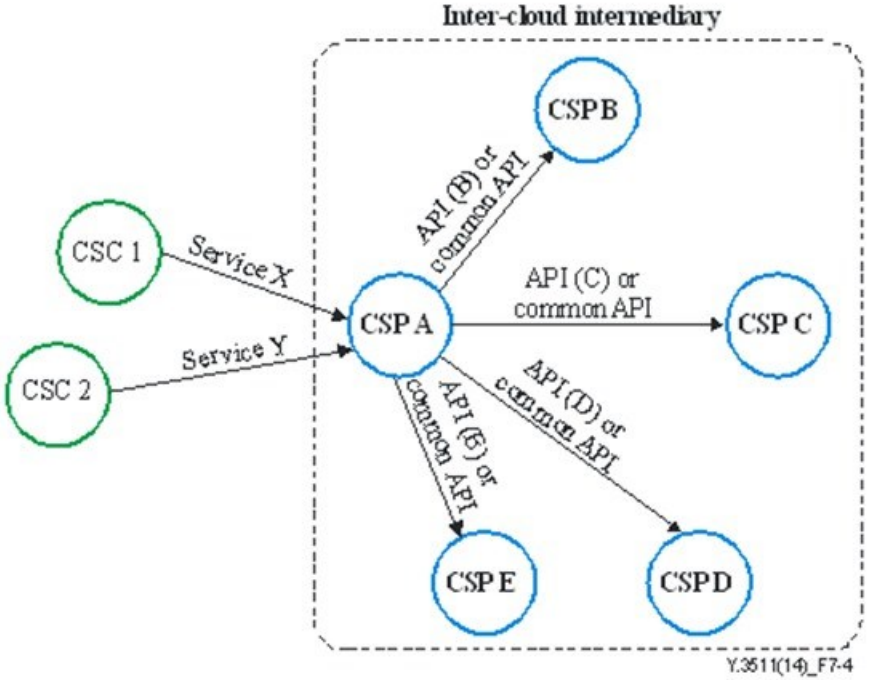
Inter Cloud Computing (Y.3511)



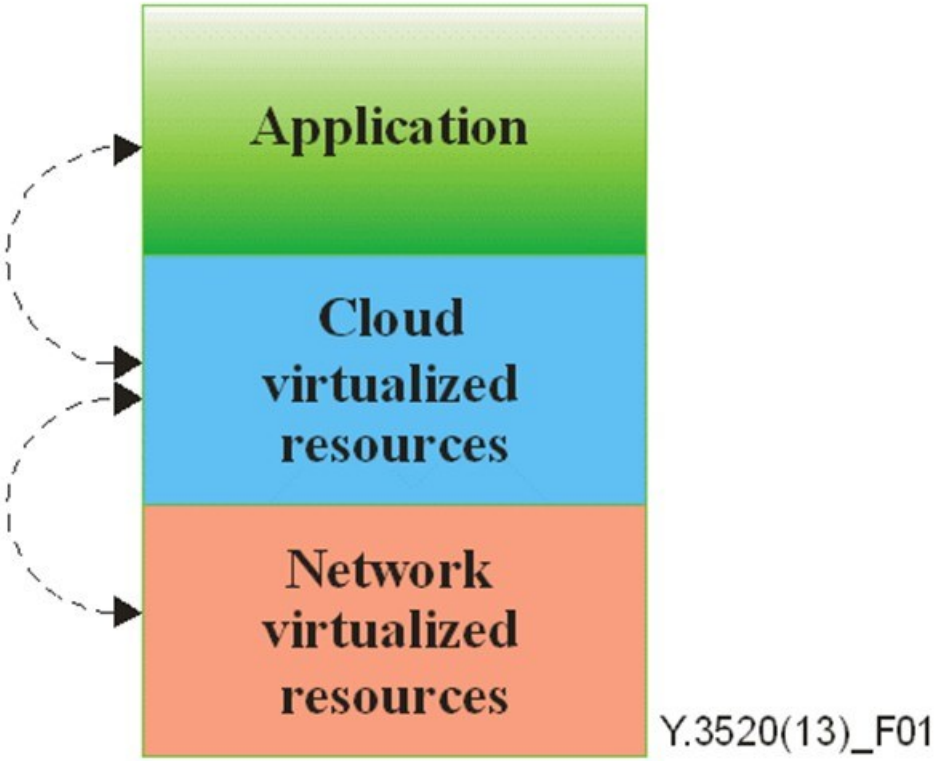
p Primary CSP

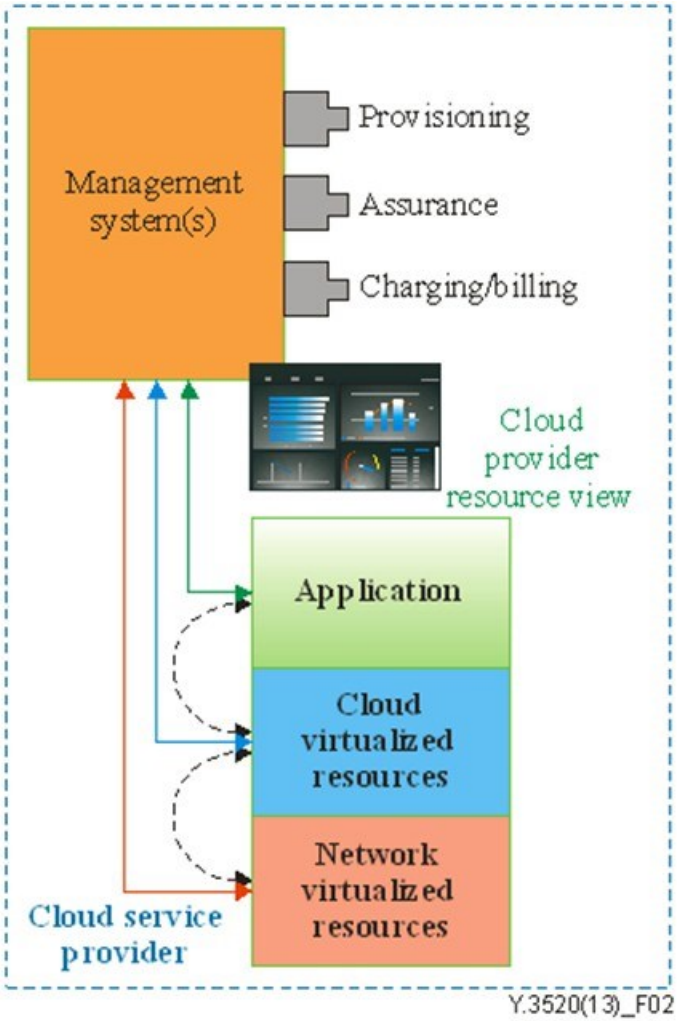
s Secondary CSP



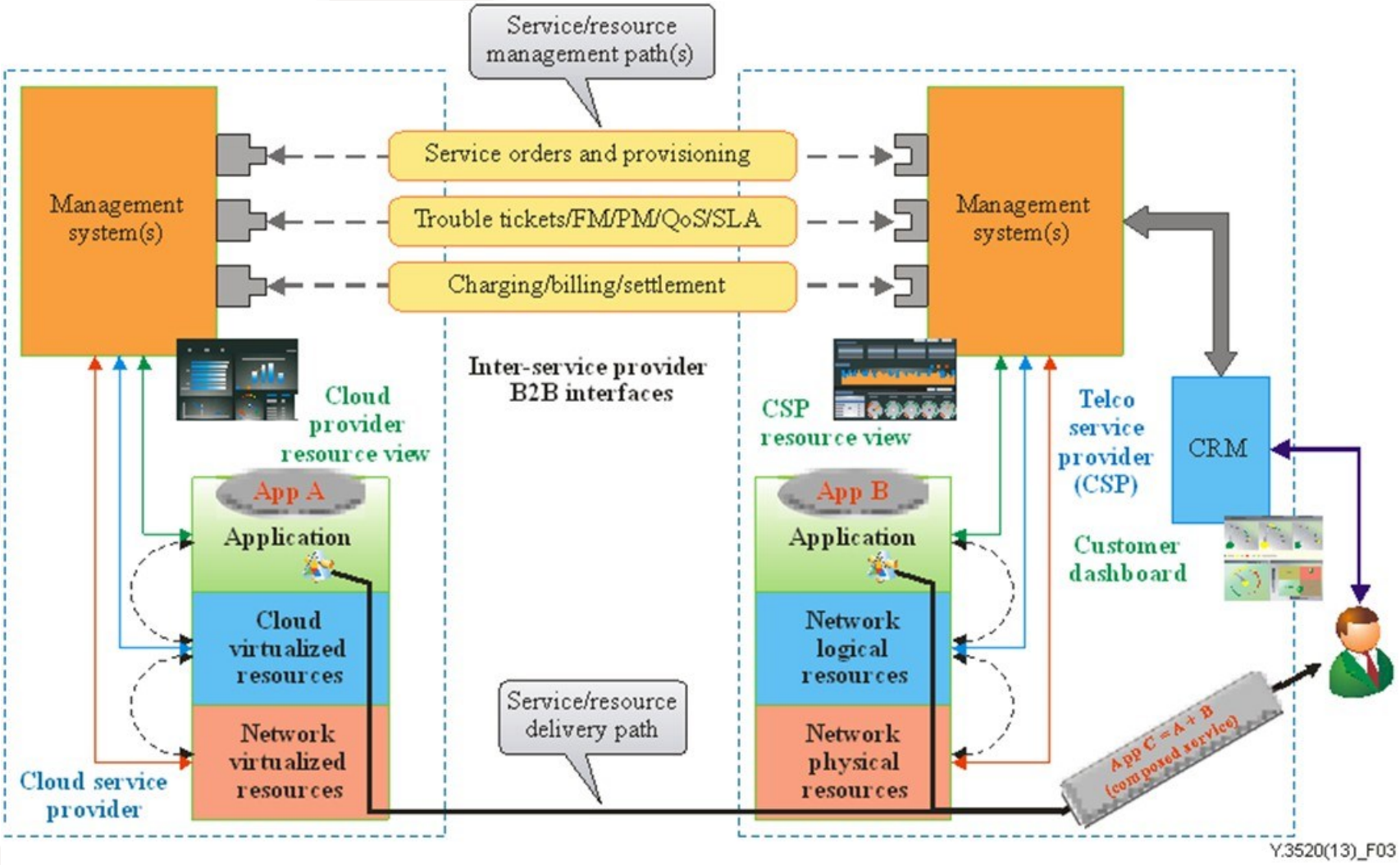


Multi Cloud Management





Inter Cloud Computing (Y.3511)

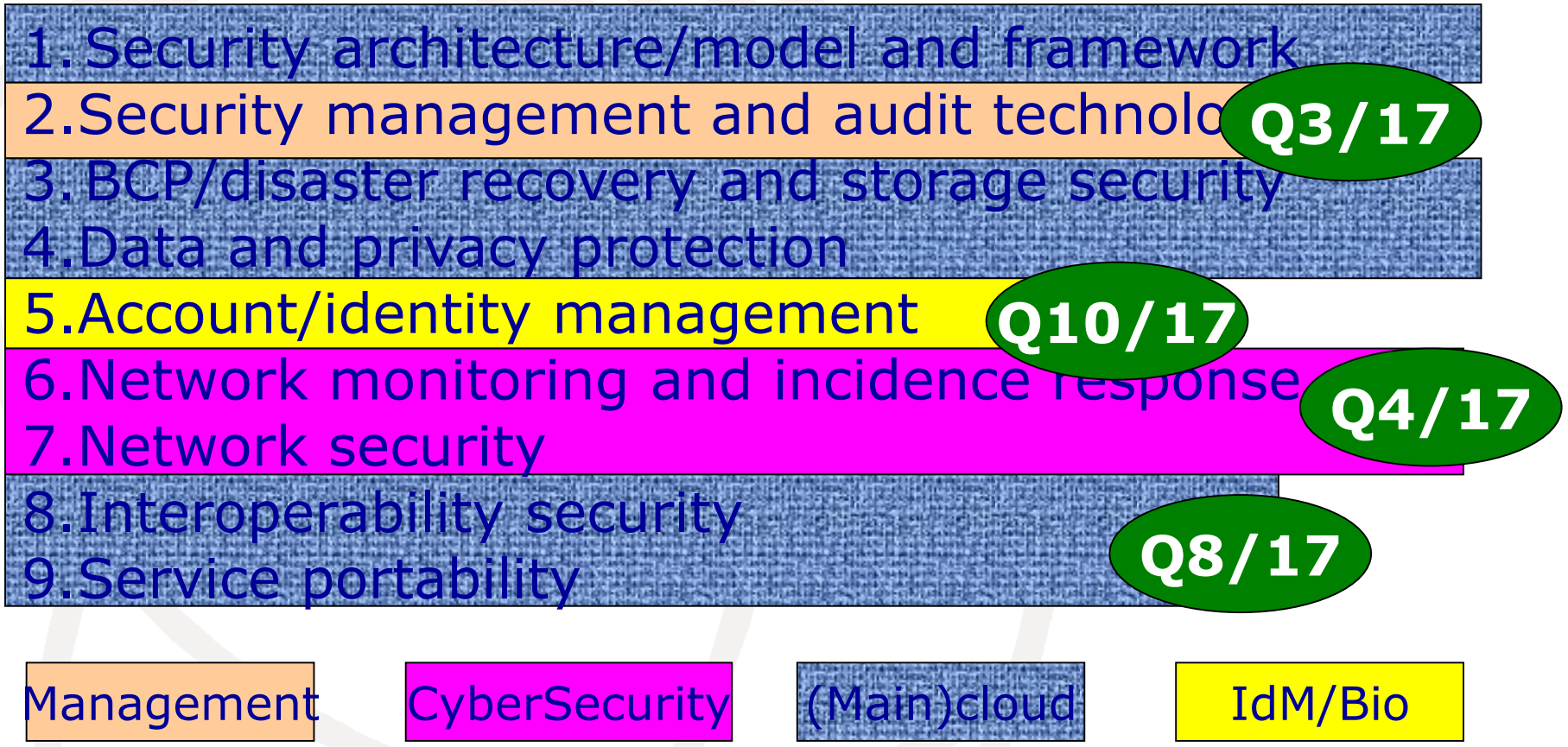


3
Security of Cloud Computing

SG17 Structure

WP1：Fundamental security	Q1：Telecommunication/ICT security coordination
	Q2：Security architecture and framework
	Q3：Telecommunication information security management
WP2：Network and information security	Q4：Cybersecurity
	Q5：Countering spam by technical means
WP3：Identity management and cloud computing security	Q8：Cloud computing security
	Q10：Identity management architecture and mechanisms
WP4：Application security	Q6：Security aspects of ubiquitous telecommunication services
	Q7：Secure application services
	Q9：Telebiometrics
WP5：Formal languages	Q11：Generic technologies to support secure applications
	Q12：Formal languages for telecommunication software and testing

Cloud Security related Questions



Cloud Security Work Items

X.1601: Security framework for cloud computing

X.cc-control: Information technology – Security techniques – Code of practice for information security controls for cloud computing services based on ISO/IEC 27002

X.sfcse: Security functional requirements for SaaS application environment

X.goscc: Guideline of operational security for cloud computin

X.Idmcc: Requirement of IdM in cloud computing

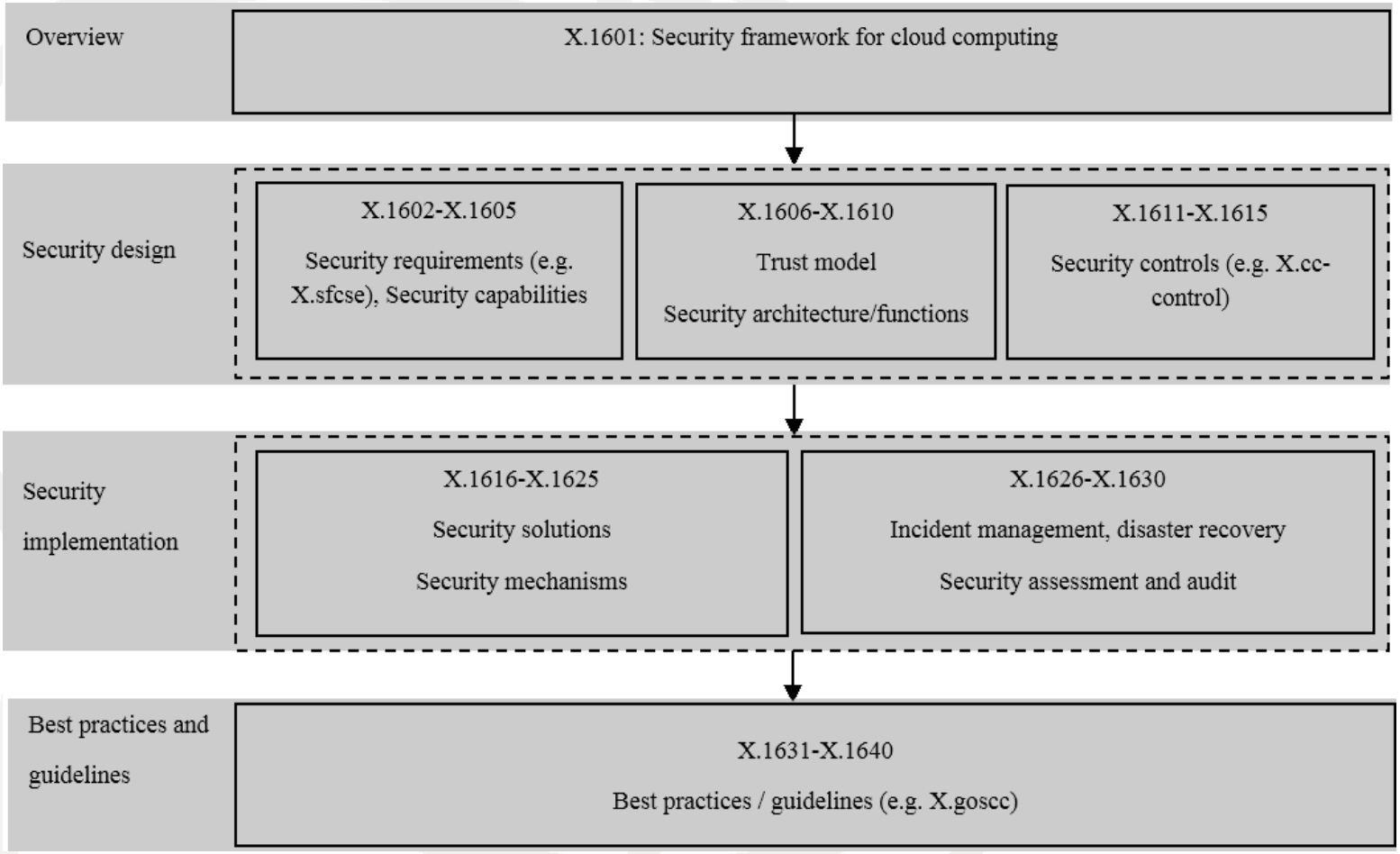
X.CSCdataSec: Guidelines for cloud service customer data security

Published in 2014.1

Common text with ISO/IEC

Established work item in 2014-09 SG17 meeting

Cloud Security Recommendations



Conclusion

1. Cloud Functional Reference Architecture
   - Chart of functionalities and their dependency
   - Layers and transversal aspects
2. Inter-Cloud and Cloud Management
   - 3 modes of federation
   - Cross-management
3. Security of Cloud Computing
   - major standard: X.1601
   - new standard: ISO/IEC JTC1 27017

Thank you!