Subscription-Based Sensor Collection Service I

- The “hello world” equivalent of an architecture description conforming to ISO/IEC 42010.
  - www.iso-architecture.org/ieee-1471/docs/SBSCS-AD-v02.pdf

Subscription-Based Sensor Collection Service II

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Version:	**v02**
Date of issue and status:	15 April 2010, approved
Issuing organization:	Dunder Mifflin and Associates, Inc.
Change history:	Version v02 was updated to reflect requirements and numbering changes between WD4 and CD1 of ISO/IEC 42010.
Summary:	This architecture provides a subscription-based service of providing access to a widely-distributed set of sensors.
Scope:	Includes only weather sensors. Does not consider acquisition or maintenance issues.
Context:	Gore and Associates commissioned this architecture study.
Glossary:	Not applicable.
Results from evaluations:	The SBSCS AD was reviewed on 6 Nov 2009 and 14 February 2010. The results of evaluations can be obtained at: https://dunder-mifflin.com/sbscs-eval
References:	Technical Memo, SCS Architecture Study, 12 March 2010

SBSCS — system stakeholders and concerns

- The following stakeholders were considered and identified:
  - users of the system
  - operators of the system
  - developers of the system
- The system concerns were considered, and the following concerns were identified for SBSCS:

System Concerns	Stakeholders
Return on investment	Operators
Timely delivery of sensor data	Users
Understanding of interactions between system elements	Developers

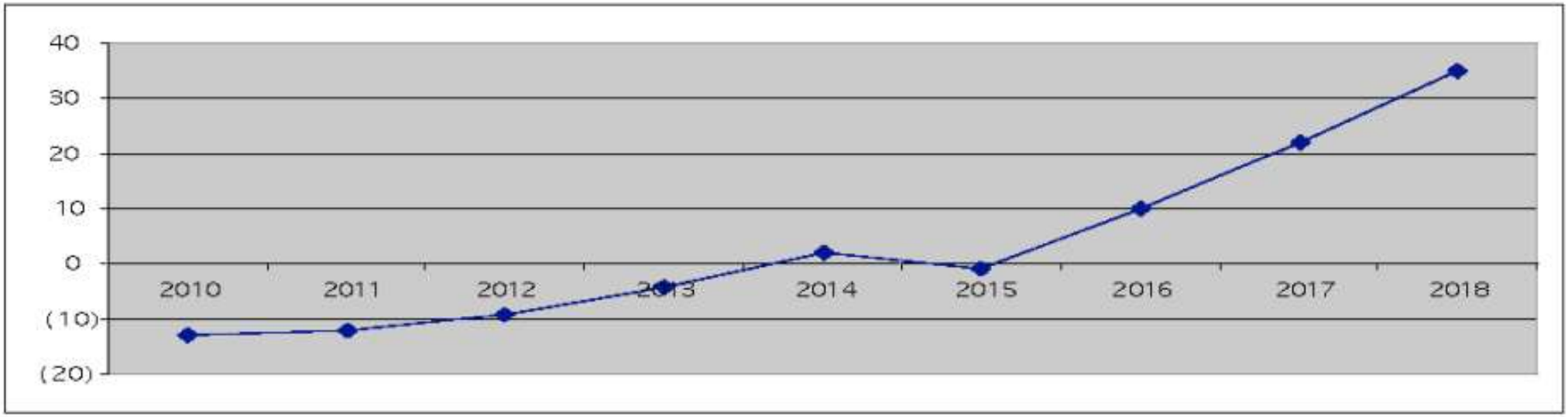
- Architecture Description uses three viewpoints: a financial viewpoint (FVP), an operational viewpoint (OVP) and a system viewpoint (SVP)

SBSCS — Financial view

- Overview: This view projects that SBSCS will achieve breakeven after five years of system operation.
- Models:
  - Model ID: SCS profit statement; Version: v1.1; Model kind: cash flow statement. Shown in figure 1.
  - Model ID: SCS profitability curve; Version: v1.4; Model kind: ROI curv. Shown in Figure 2.

SBSCS — Financial view: profit statement & profitability curve

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income	0	2	4	6	8	12	14	16	18
Expenses	(13)	(1)	(1)	(1)	(2)	(15)	(3)	(4)	(5)
Profit	(13)	1	3	5	6	(3)	11	12	13
ROI	(13)	(12)	(9)	(4)	2	(1)	10	22	35



SBSCS — Operational View

- This view shows that a typical user request will be satisfied within 20 seconds.
- Model ID: Collection TLD; Version: v2.4; Model kind: Timeline diagram.

Node	Action	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
User	request data	■																			
Exec	chk user status		■	■																	
Exec	command sensor				■	■	■														
Sensor	collect data					■	■	■	■	■	■	■	■	■							
Distri-bution	distribute data									■	■	■	■	■	■	■	■				
User	receive data												■	■	■	■	■	■	■	■	

SBSCS — System View

- This view shows system nodes and dataflow between nodes
- Model ID: SCS Dataflow; Version: v0.5;
  Model kind: Dataflow diagram

NodeCheck: Each node in a dataflow diagram must appear at least once in the timeline diagram with its corresponding response time for that node.

Assessment of **NodeCheck**:
This rule holds true for this SBSCS AD. All nodes in SCS Dataflow are present in Collection TLD. Each entry in Collection TLD specifies a response time.