



ARC-IT V8 Workshop

ARC-IT FROM A NATIONAL ITS ARCHITECTURE PERSPECTIVE

Perspectives to Accessing ARC-IT

- ARC-IT covers all the content from both
 - National ITS Architecture v7.1
 - CVRIA v2.2
- “What’s New?” depends on your perspective
 - [What's New in ARC-IT From the National ITS Architecture Perspective](#)
 - [What's New in ARC-IT From the CVRIA Perspective](#)



What's New - National ITS Architecture Perspective

- First Glance? ARC-IT v8 completely different than v7.1
- 2nd Glance?
 - Concepts & Features are there
 - Terminology & Graphics updated
 - Content expanded for all of ITS
- What's Changed – What Hasn't
 - Service Packages
 - Layers → Views
 - Enterprise
 - Functional
 - Physical
 - Communications
 - Security



Service Packages Are Still the "Front Door"

- SPs have always served as the primary entry point to the National ITS Architecture and they continue in that role in ARC-IT.
- Increased from 97 to 133 to cover all of the National ITS Architecture service packages and all of the connected vehicle applications.
- There was some consolidation and reorganization
- Eight service areas became twelve service areas in ARC-IT.
 - New 'Support' and 'Sustainable Travel' service areas include Service Packages from CVRIA that will be mostly new to National ITS Architecture users.



Service Package Areas

V7.1 Service Area	ARC-IT Service Area
Advanced Traffic Management Systems (ATMS)	Traffic Management (TM)
Advanced Traveler Information Systems (ATIS)	Traveler Information (TI)
Advanced Public Transportation Systems (APTS)	Public Transportation (PT)
Emergency Management (EM)	Public Safety (PS)
Commercial Vehicle Operations (CVO)	Commercial Vehicle Operations (CVO)
Maintenance and Construction (MC)	Maintenance and Construction (MC)
Archived Data (AD)	Data Management (DM)
Advanced Vehicle Safety Systems (AVSS)	Vehicle Safety (VS)
	Support (SU)
	Sustainable Travel (ST)
(Previously included in ATMS)	Parking Management (PM)
(Previously included in MC)	Weather (WX)



Service Package Heritage Table, v7.1



ARC-IT Version 8.0
Including the National ITS Architecture and CVRIA

Architecture ▼ Architecture Use ▼ Architecture Resources ▼ Architecture Terminology ▼ Contact The Architecture Team

[Home](#) > [Service Packages](#) > National ITS Architecture 7.1 Heritage

National ITS Architecture 7.1 Heritage

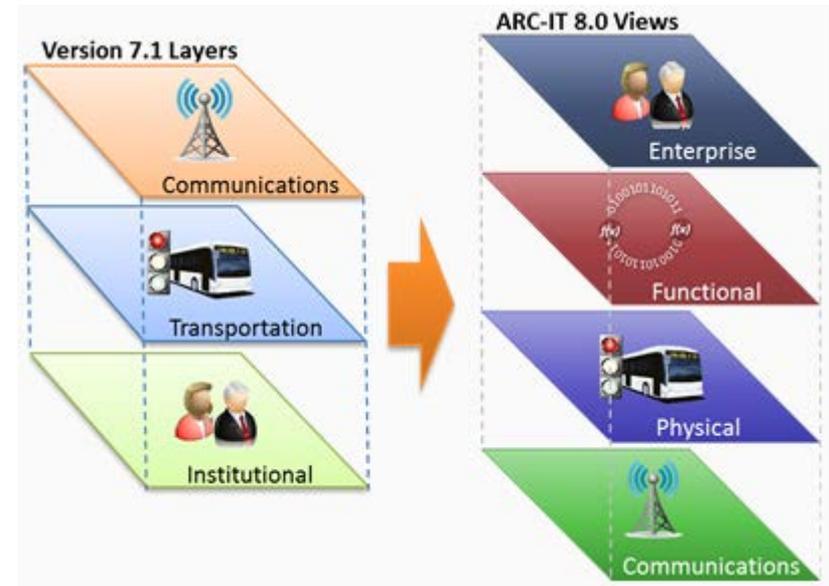
The table below shows how the National ITS Architecture 7.1 service packages trace to ARC-IT 8.0 service packages.

National ITS Architecture 7.1 Service Package		ARC-IT 8.0 Service Package	
Short Name ▲	Name	Short Name	Name
AD1	ITS Data Mart	DM01	ITS Data Warehouse
AD2	ITS Data Warehouse	DM01	ITS Data Warehouse
AD3	ITS Virtual Data Warehouse	DM01	ITS Data Warehouse
APTS01	Transit Vehicle Tracking	PT01	Transit Vehicle Tracking
APTS02	Transit Fixed-Route Operations	PT02	Transit Fixed-Route Operations
APTS03	Demand Response Transit Operations	PT03	Dynamic Transit Operations
APTS04	Transit Fare Collection Management	PT04	Transit Fare Collection Management
APTS05	Transit Security	PT05	Transit Security
APTS06	Transit Fleet Management	PT06	Transit Fleet Management
APTS07	Multi-modal Coordination	PT14	Multi-modal Coordination
APTS08	Transit Traveler Information	PT08	Transit Traveler Information
APTS09	Transit Signal Priority	PT09	Transit Signal Priority
APTS10	Transit Passenger Counting	PT07	Transit Passenger Counting

RAD-IT and SET-IT, will convert your National ITS Architecture service packages to ARC-IT service packages automatically.

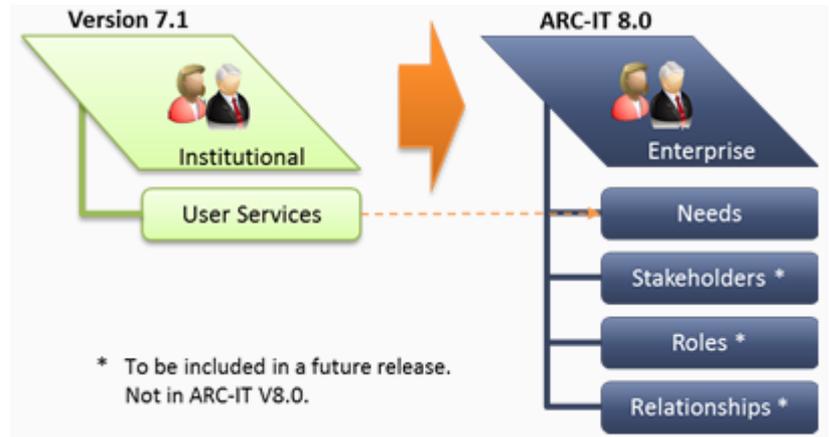
'Layers' Are Now 'Views'

- Institutional → Enterprise
- Transportation – split into Functional (Logical) & Physical
- Communications expanded



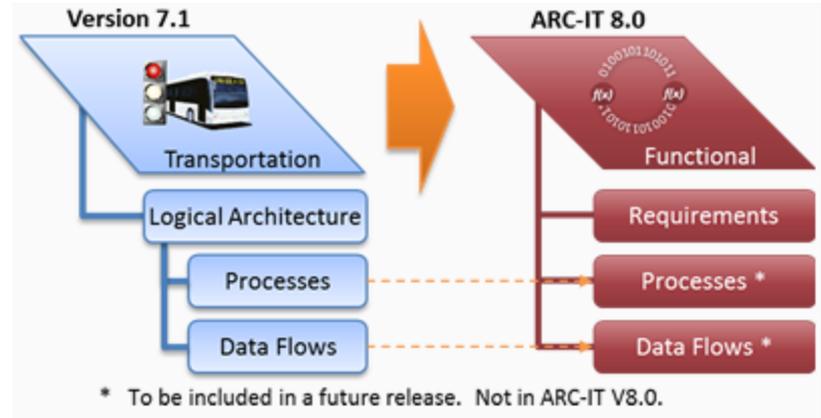
What's New in Enterprise

- User Services once guided development of Architecture
- Now Stakeholders' Needs for all transportation services have been developed
- User Services as sources for v7.1 service packages



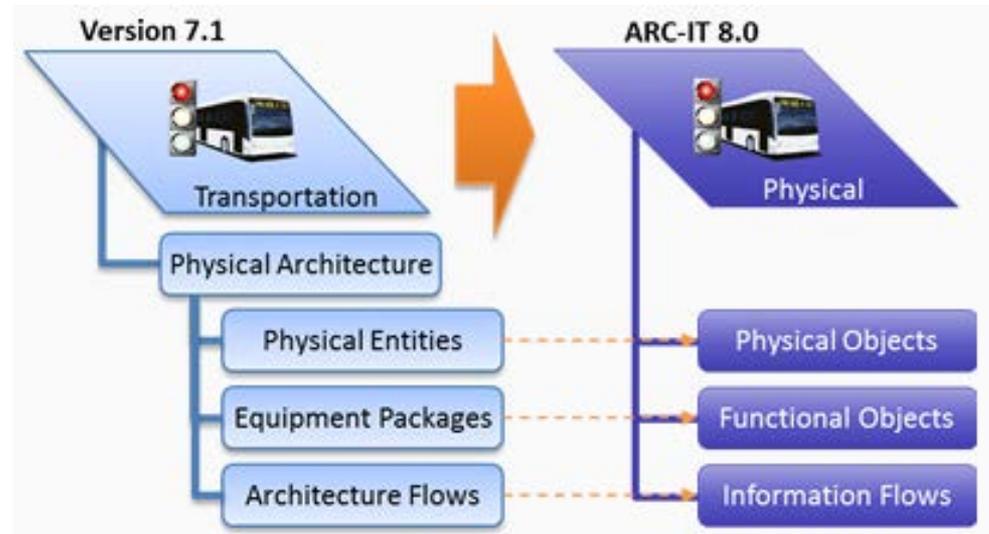
What's New in Functional View

- Will include a hierarchical set of processes and data flows
- Extended to cover all ARC-IT service packages and needs
- All functional Requirements are linked to Physical's Functional Objects



What's New in Physical View

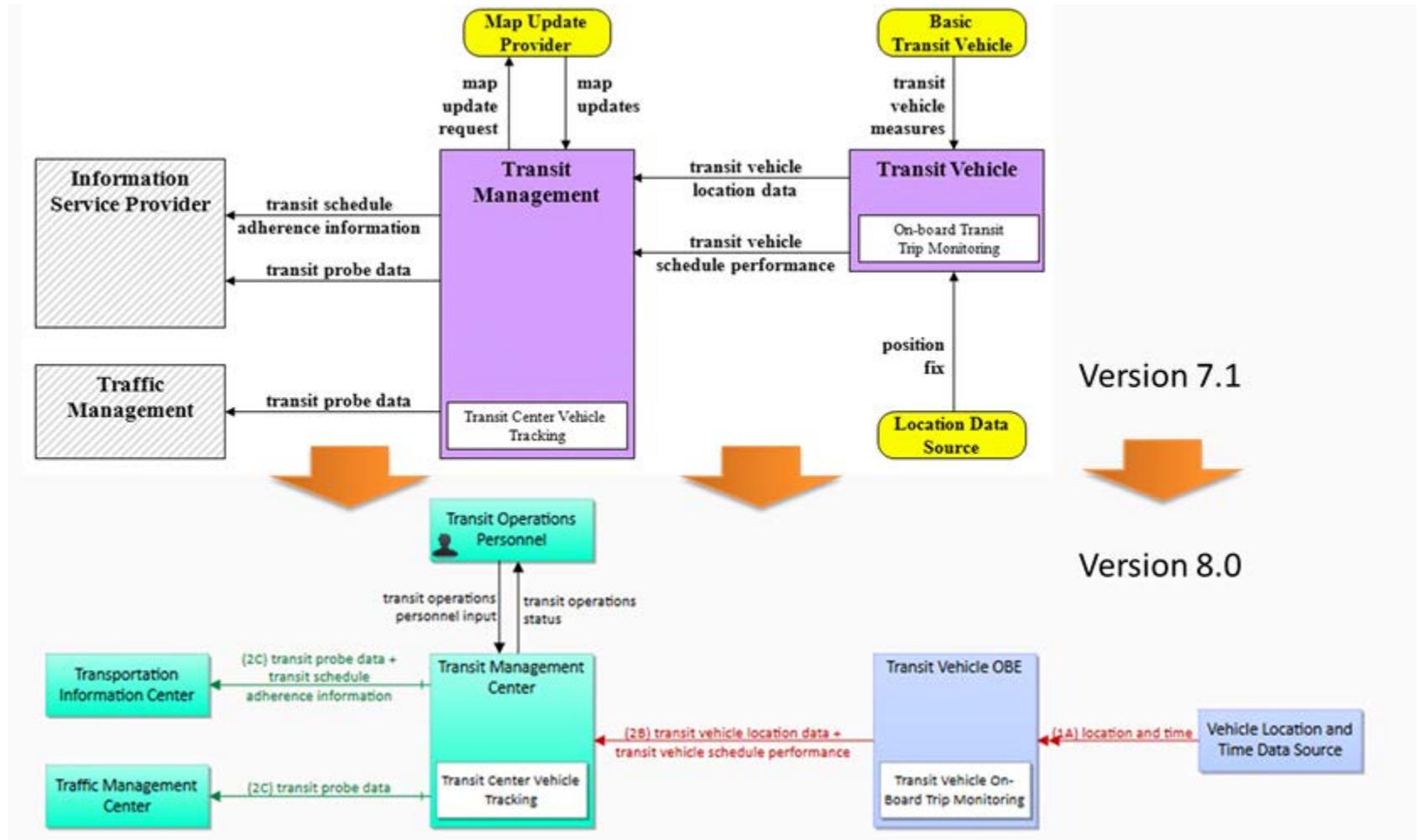
- Some Name Changes
- Scope has expanded
- Basics are the same



RAD-IT and SET-IT, will convert your National ITS Architecture physical entities to ARC-IT physical objects automatically.

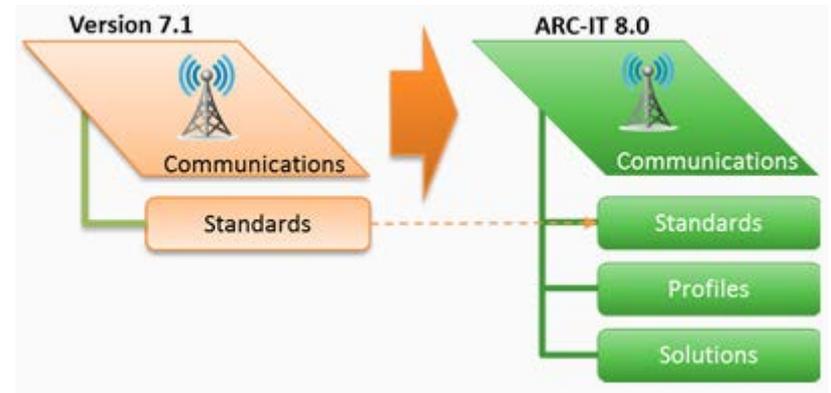


Service Package Presentation



What's New in Communications View

- Connection between physical information flows & standards is similar
- V7.1 mapped flows to standards
- V8.0 goes further
 - Organizes standards into 'Profiles' that identify standards at each layer of the OSI communications stack
 - Profile + Information Layer standard = Solution



Security

- Same basic security classification scheme in previous versions continues:
 - considered confidentiality, integrity, and availability requirements for each information flow and physical object
- Upgraded and revised for Version 8.0:
 - Every information flow triple now includes security classification ratings (C-I-A) which are used to provide device classification requirements for the physical objects
 - Explicitly supports security credentials management
 - References specific communications security standards



Take a Tour – Next Pit Stop

- Find the ARC-IT Equivalent of ATMS01 Network Traffic Surveillance
- What is the role of connected vehicle technology in this SP?
- What information flow carries video from the ITS Roadway Equipment to the Traffic Management Center?
- What information flow carries Bluetooth-sniffed speed data?





ARC-IT V8 Workshop

ARC-IT FROM A CVRIA PERSPECTIVE

What's New - National ITS Architecture Perspective

- First Glance? ARC-IT v8 looks like a refinement of CVRIA
- 2nd Glance?
 - Architecture structure is the same, but refined
 - Scope is significantly increased to cover all of ITS
 - Enterprise content?
- What's Changed – What Hasn't
 - Service Packages
 - Security
 - Background Documentation
 - Architecture Use



Applications Service Packages Are Still the "Front Door"

- Applications were the entry point into CVRIA. SPs are the same.
- Increased from 96 to 133 to cover all of the National ITS Architecture service packages and all of the connected vehicle applications.
- There was some consolidation and reorganization
- Four application types became eight service package types in ARC-IT.



Service Package Types

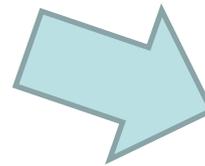
CVRIA Application Type

Environmental

Mobility

Safety

Support



ARC-IT Service Package Type

Convenience

Environmental

Informational

Management

Mobility

Regulatory

Safety

Support

From the Service Package page,
click the 'Type Sort' link to view
SPs by type



Service Package Heritage Table, CVRIA

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[Architecture](#) ▾ [Architecture Use](#) ▾ [Architecture Resources](#) ▾ [Architecture Terminology](#) ▾ [Contact The Architecture Team](#)

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CVRIA 2.2 Heritage

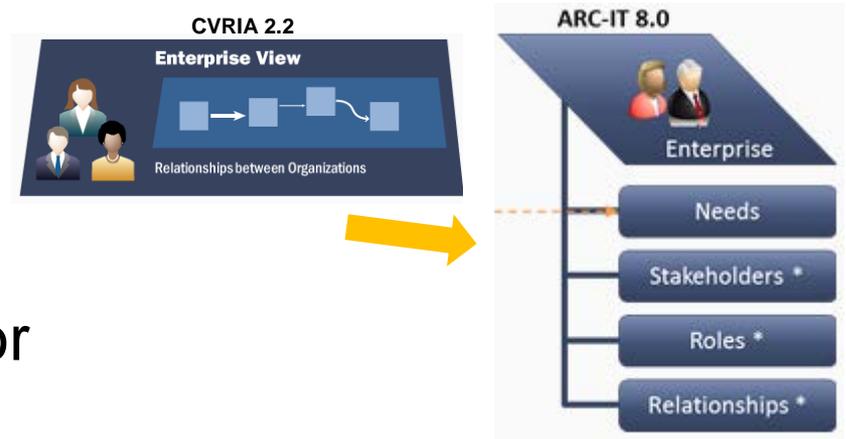
The table below shows how the CVRIA 2.2 applications trace to ARC-IT 8.0 service packages.

CVRIA 2.2 Application	ARC-IT 8.0 Service Package	
Name	Short Name	Name
Advanced Automatic Crash Notification Relay	PS04	Mayday Notification
Advanced Traveler Information Systems	PS14	Disaster Traveler Information
	TI01	Broadcast Traveler Information
	TI02	Personalized Traveler Information
Blind Spot Warning + Lane Change Warning	VS02	V2V Basic Safety
Border Management Systems	TM23	Border Management Systems
Connected Eco-Driving	ST09	Connected Eco-Driving
Container Security	CVO15	Fleet and Freight Security
Container/Chassis Operating Data	CVO02	Freight Administration
Control Loss Warning	VS02	V2V Basic Safety
Cooperative Adaptive Cruise Control	VS14	Cooperative Adaptive Cruise Control
Core Authorization	SU02	Core Authorization
Curve Speed Warning	VS05	Curve Speed Warning
Data Distribution	SU03	Data Distribution
Do Not Pass Warning	VS02	V2V Basic Safety
Dynamic Eco-Routing	TI03	Dynamic Route Guidance
	TI04	Infrastructure-Provided Trip Planning and Route Guidance
Dynamic Ridesharing	TI06	Dynamic Ridesharing and Shared Use Transportation

SET-IT will convert your CVRIA applications to ARC-IT service packages automatically.

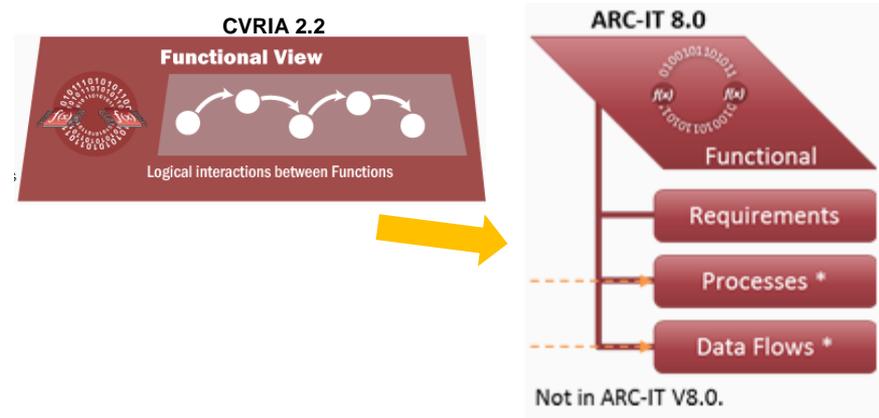
What's New in Enterprise

- All new user needs
 - mapped to service packages
 - traceable to requirements
- Roles and Relationship Types defined: sufficient for SET-IT use
- Enterprise content in v8.1



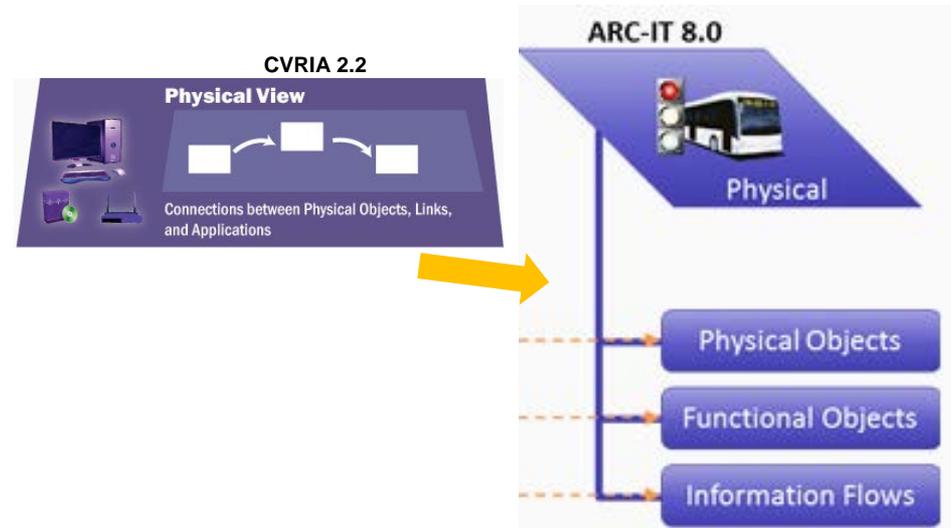
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What's New in Physical View

- Some Name Changes
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RAD-IT and SET-IT, will convert your National ITS Architecture physical entities to ARC-IT physical objects automatically.



What's New in Communications View

- Updated to support changes in published standards

