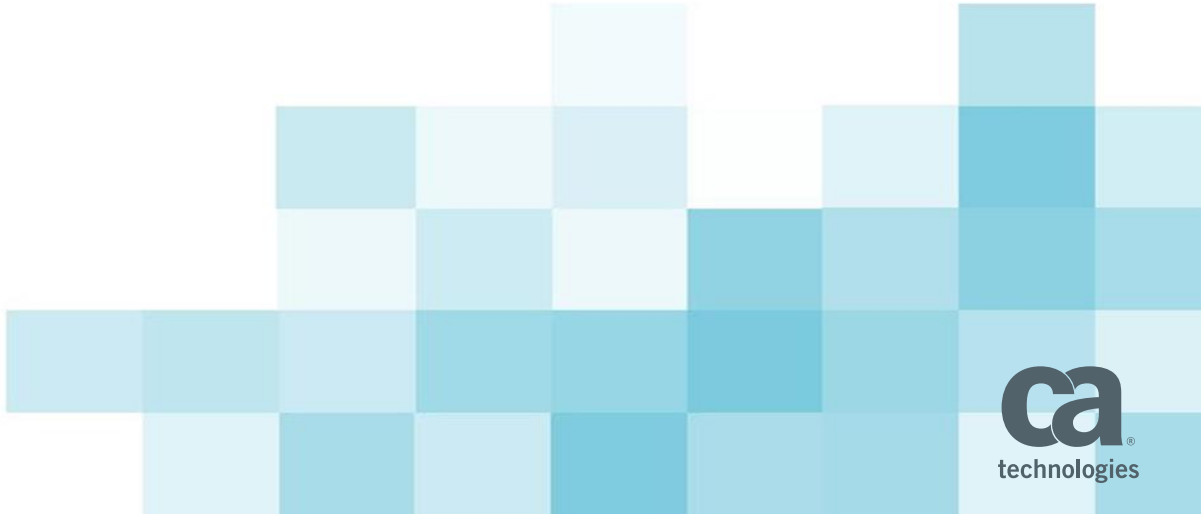


What's New with CA IDMS™ Version 19

David Ross, Sr. Principal Product Owner

August 22, 2016



Agenda

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CA IDMS 19.0 STATUS

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CA IDMS 19.0 THEMES

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CA IDMS 19.0 FEATURES

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ADDITIONAL VALUE FOR CA IDMS

CA IDMS 19.0 Status

- CA IDMS 19.0 Incremental Release program concluded
 - Base install delivered in Feb 2015
 - 4 increments delivering new features
- CA IDMS 19.0 Generally Available
 - New installation media on CA Support Online
 - Includes incremental releases and maintenance
 - Standard support policies
 - CARS will include PTFs going forward

Mainframe Strategy Themes

Improve Mainframe Economics

- Mission Critical MIPS at Lower TCO
- Improve Business Continuity
- Implementation of Continuous Availability

Develop Business Agility

- Automation for Cycle Time Reduction
- Implement Practices for Faster Delivery
- Enhanced Support for Modern Applications

Address Skills Gap

- Toolset and application Modernization for User Adoption on MF
- Advanced Analytics for Efficiency/Effectiveness
- M3A

Secure Data and Facilitate Compliance

- Data Security
- People & Access Security
- Governance and Compliance

CA IDMS 19.0 Themes

- Application Modernization
 - SQL Enhancements
 - Web Services
- Security and Compliance
 - Performance Monitoring Security
 - SYSIDMS Options
- Availability and Mainframe Economics
 - Generic VTAM Resources
 - DCMT Commands

CA IDMS 19.0 SQL Enhancements

- SQL Virtual Foreign Keys
 - Simplifies access to network databases
- ISO Standard SQL Constraint DDL
 - Provides more compatibility with tools and applications

CA IDMS SQL Relational to Network Mapping

SQL

Network

Table

- Identically named

Record
definition

- Via SCHEMA

Row

- Equivalent

Record
occurrence

- Equivalent

Column

- Automatically renamed

Element

- Except ODO, redefines, ...

Referential
constraint

- Partial mapping

Set

- Lack of foreign keys

Virtual Foreign Keys

Expose Sets as Referential Constraints

- Queries
- Updates

Based on ROWID

- Virtual primary key = ROWID
- Virtual foreign key = FKEY_<set_name>

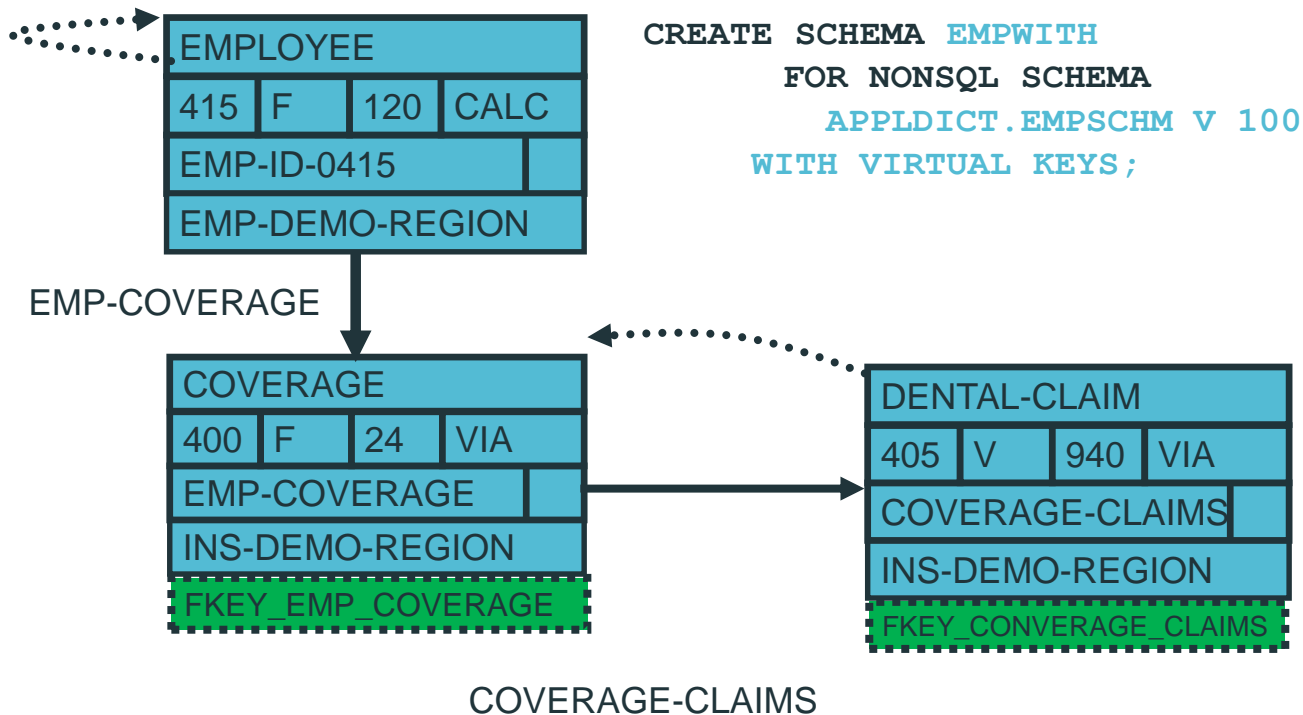
Define on SQL Schema definition

Visible through JDBC and ODBC metadata

Enable access for common tools and application frameworks

Use SQL to access and maintain network databases from Java

EMPSCHM With Virtual Foreign Keys



Using Virtual Foreign Keys

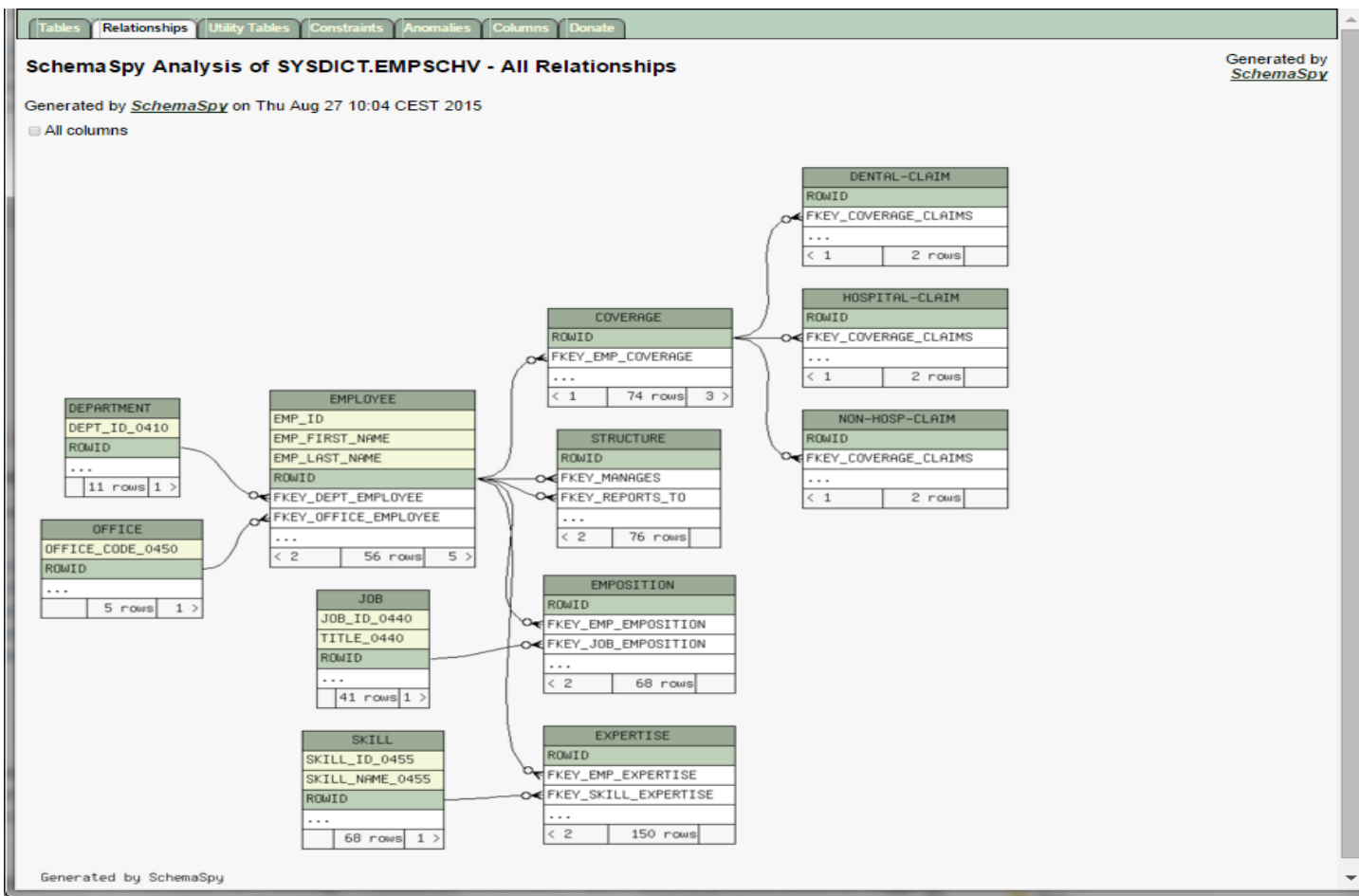
Nonstandard CA IDMS extensions

```
SELECT EMP_ID_0415,  
       INS_PLAN_CODE_0400  
FROM EMPSQL.EMPLOYEE,  
     EMPSQL.COVERAGE,  
WHERE "EMP-COVERAGE"
```

Become standard SQL

```
SELECT EMP_ID_0415,  
       INS_PLAN_CODE_0400  
FROM EMPSQL.EMPLOYEE E,  
     EMPSQL.COVERAGE C,  
WHERE E.ROWID = C.FKEY_EMP-COVERAGE
```

Discovering Network Relationships



SQL DDL Enhancements

- ISO Standard Constraint Definition DDL
 - CREATE TABLE
 - ALTER TABLE
 - Unique and Primary Key constraints
 - Primary key constraints
- Generates an index to enforce uniqueness if needed
- DISPLAY TABLE
- Improves integration with frameworks and tools such as Hibernate and CA Test Data Manager

Defining Unique and Primary Key Constraints

```
CREATE TABLE ABC.TABLE1 (  
    COL1 CHAR(8) UNIQUE,  
    COL2 CHAR(8),  
    CONSTRAINT CON1 UNIQUE (COL2, COL1)  
);
```

```
CREATE TABLE ABC.TABLE2 (  
    COL1 CHAR(8) NOT NULL,  
    COL2 CHAR(8) NOT NULL,  
    COL3 CHAR(8) NOT NULL,  
    PRIMARY KEY (COL2, COL3)  
);
```

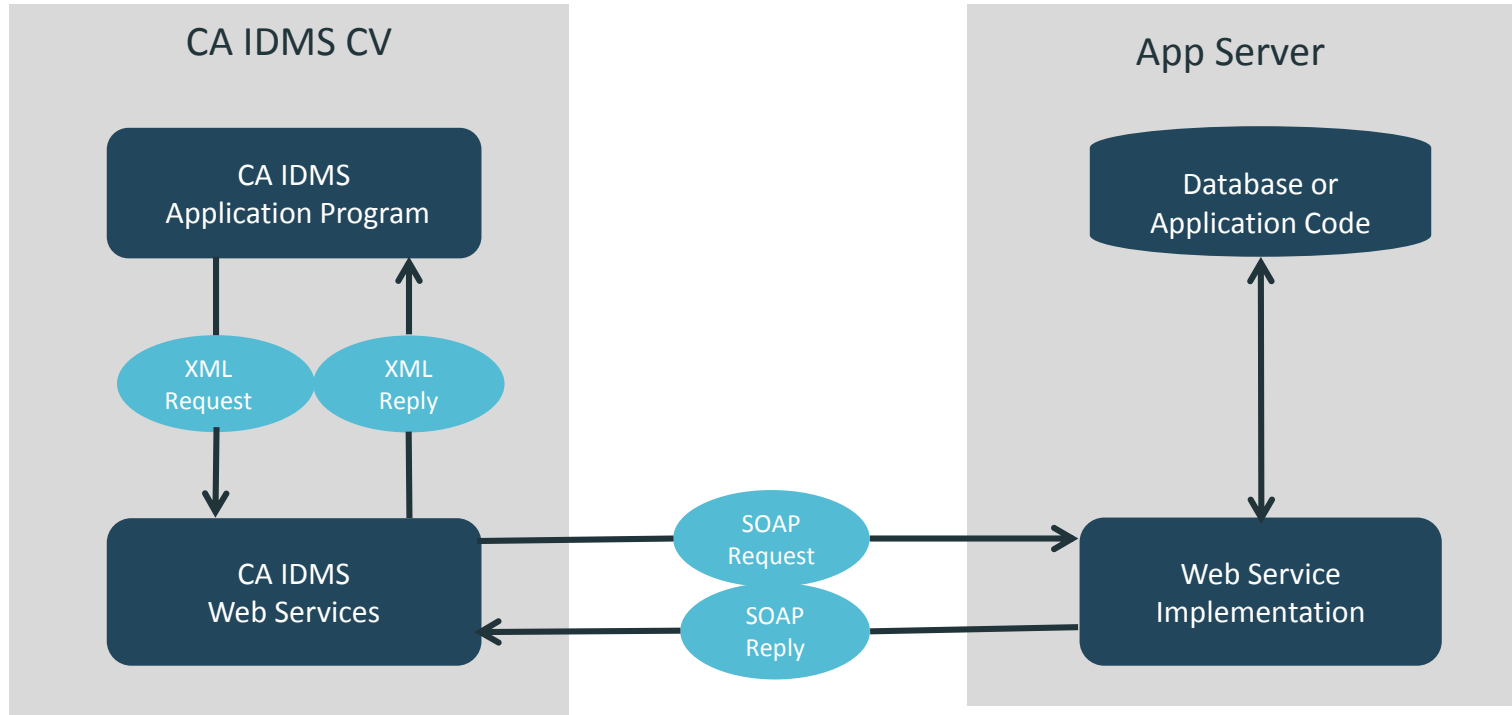
Defining Referential Constraints

```
CREATE TABLE ABC.TABLE3 (  
    COL1 CHAR(8) ,  
    COL2 CHAR(8) ,  
    FOREIGN KEY (COL1,COL2) REFERENCES TABLE4 ,  
    COL3 CHAR(8) NOT NULL  
        CONSTRAINT CON1 REFERENCES TABLE5 (COL5)  
    ) ;
```

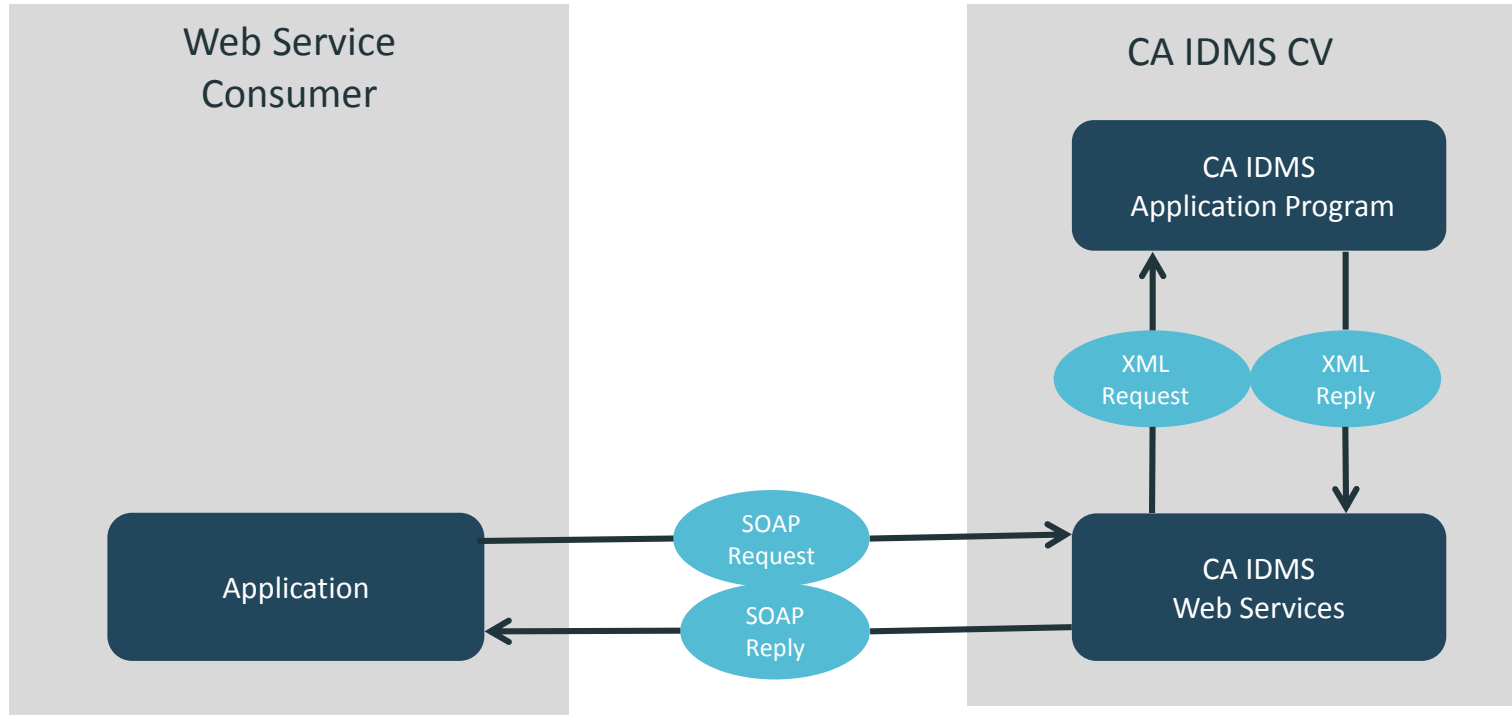
CA IDMS Web Services

- Web Service Consumer
- Web Service Provider
- Web Services API
- Leverage and extend CA IDMS applications

CA IDMS as a Web Service Consumer



CA IDMS as a Web Service Provider



Web Services API

- Well defined, extendable interface
 - Simplifies application development
 - Isolate user code from product changes
 - Provide consistent base for product enhancement
- CA IDMS Callable Service
 - COBOL, ADS, PL/1, Assembler
- WS API Functions
 - Data transfer
 - Session management
 - Option management

Invoking the Web Services API

COBOL

```
CALL 'IDMSWSI' USING  
    function,  
    return-code,  
    error-info,  
    function-dependent-parameter1,  
    . . .
```

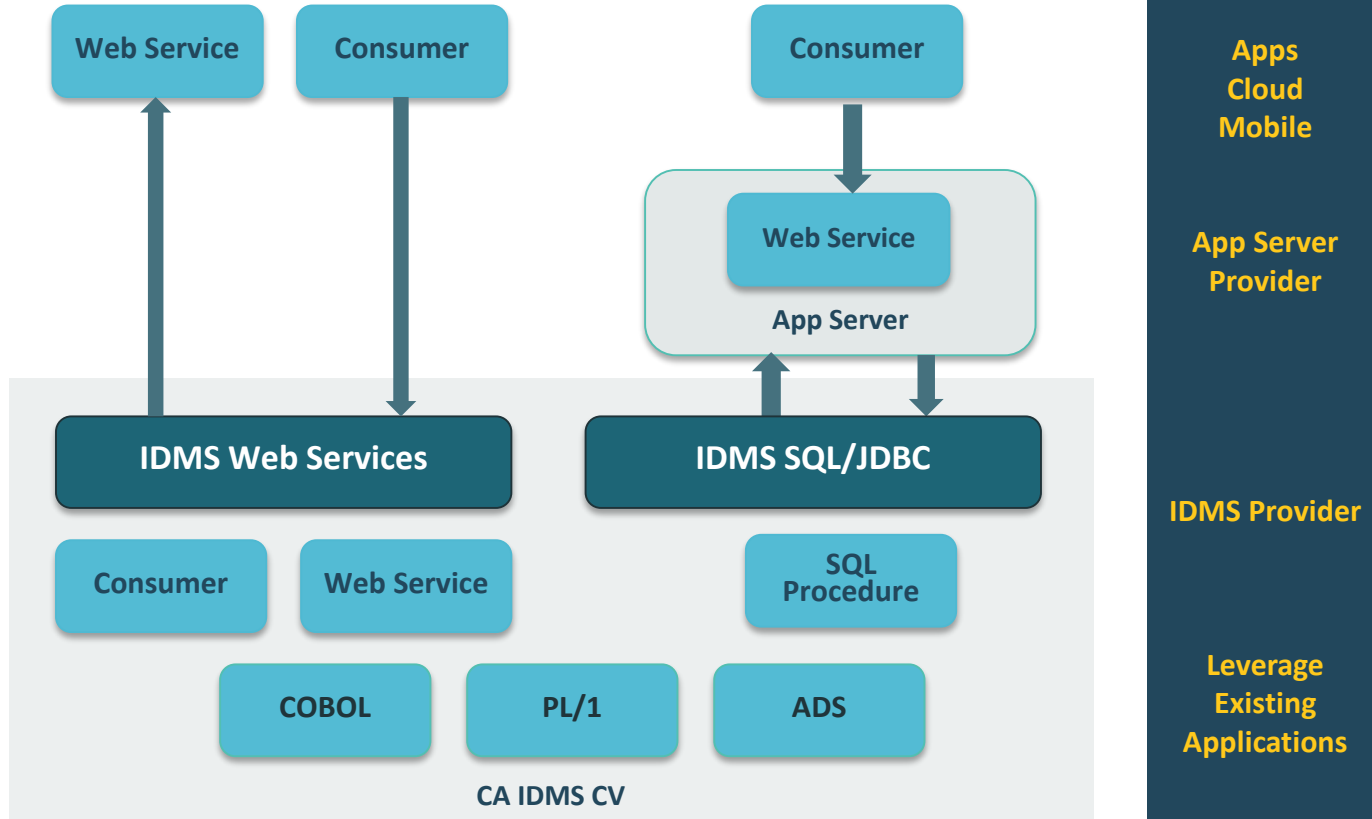
ADS

```
LINK TO PROGRAM 'IDMSWSI' USING  
    function,  
    return-code,  
    error-info,  
    function-dependent-parameter1,  
    . . .
```

Using the Web Services API

Consumer		Provider	
Operation	API Function	Operation	API Function
Initialize Environment	WSINITIALIZE	Initialize Environment	WSINITIALIZE
Manage Options	WSGETOPTION WSSETOPTION	Manage Options	WSGETOPTION WSSETOPTION
Send XML Request Receive Response	WSREQUEST	Receive Request	WSRECEIVE
		Send XML Response	WSEND
Free Resources	WSRELEASE	Free Resources	WSRELEASE

CA IDMS Application Modernization



Security and Compliance

- Secure External Monitoring
- SYSIDMS Options
 - Limit Exit 14 to Batch Only
 - Force Retrieval CV
 - Suppress Record after DB Procedure
- User Requested Features

Secure External Monitoring

TSO Narrow

QWS3270 Edit View Options Tools Help

PM-R18.5 SYSQA34 CA, Inc. V234 13.017 13:39:46.78
CMD--> Window : 02
Refresh: 10

02 Active System Summary >

Job Name	Job Number	Job Status	ASID	Program Name	DCV	CV	SVC	Version
EDCQA185	JOB00390	NS	008B	RHDCOMVS	117	117	174	18.5.00
EDCQA18X	JOB00449	NS	0095	RHDCOMVS	119	119	174	18.5.00
SYSQA14	JOB11513	NS	0090	RHDCOMVS	214	214	174	18.0.00
SYSQA34	JOB54806	NS	0089	RHDCOMVS	234	234	174	18.5.00

01 Realtime Monitor Menu

PFkey	Description	PFkey	Description
PF1	System Run Unit Summary	PF2	Scratch Manager Detail
PF3	Communication Line Detail	PF4	Active User Task Detail
PF5	Active System Task Detail	PF6	Transaction Detail
PF7	Lterm Resource Usage Summary	PF8	Buffer I/O Summary
PF9	Storage Pool Detail	PF10	Program Pool Detail
PF11	Database Overview	PF12	Transaction Overview
PF13	Task + Prog Pool Overview	PF14	Storage Pool Overview
PF15	Database I/O Driver Detail	PF16	Journal Detail
PF17	SQL Overview	PF18	Active SQL Detail
PF19	Active System Summary		

Connected to tpx port 23

10/5 NUM 13:39:51 IBM-3279-2-E - A55T8305

Defining External Monitoring Security

- Limit monitoring of external CV's to authorized users
- Enforced when user attempts monitoring
- Define in external security system (TSS, ACF2, RACF)
- Grant access to individuals or group
- Extends CANCEL task security

Limit EXIT 14 to Batch Only

- SYSIDMS parameter EXIT14_BATCH_RU
- EXIT 14 executed only when called from a BATCH Run Unit
- Reduces zIIP overhead

Force Retrieval CV

- SYSIDMS parameter RETRIEVAL_CV
- Converts READY AREA UPDATE to READY AREA RETRIEVAL when area is varied retrieval
- Allows update program to run unchanged on a retrieval CV

Suppress Record after DB Procedure

- SYSIDMS parameter SUPPRESS_RECORD_ON_STATUS=nn
- DB procedure returns non zero error status
- DBMS takes action based on verb to suppress record
- Use to hide record occurrence based on content

Availability and Mainframe Economics

- Generic VTAM Resource ID
- Dynamically Disable and Enable zIIP Processing
- Force LOG Offload

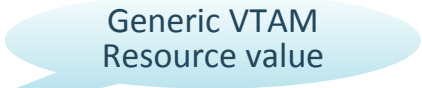
Generic VTAM Resource ID

- Define one or more CA IDMS systems to VTAM using the same Generic Resource ID
- Allows user to connect to any IDMS system using the same Generic VTAM Resource ID
- Removes a single point of failure
- Provides an additional level of Workload Balancing

Defining Generic VTAM Resources

■ CA IDMS SYSGEN

```
ADD LINE VTAM01  
APPLICATION ID IS U31II110  
GENERIC RESOURCE IS IDMSGVR2
```



Generic VTAM
Resource value

■ Non CA IDMS

- XCF Group and Structure
- VTAMLST GRPREFS dataset – WLM balancing and routing

Dynamically Disable and Enable zIIP Processing

- DCMT Vary ZIIP ON|OFF
- Adjust zIIP use based on workload
- Start system with zIIP=Y
- New messages: DC302000-DC302005

Force Log Offload

- DCMT Vary Log
- Issues message DC286003
- WTOEXIT can use to manually submit a LOG offload job
- Updated WTOEXIT sample
- Help verify a new release after an upgrade

CA IDMS™ M3A Service

Start-up activities	– Initial interview, inventory, performance baseline and site report
Daily Activities	– Review current system activity, recent activity logs, recent table activity, alert on required corrective activity, and record activity
Monthly Activities	– Repeat measurement activities, update updated site report
Quarterly Activities	– Review CA IDMS™ maintenance availability
Staffing	– Primary and backup M3A technician
Internal	– CA IDMS™ and Support Engineers
External	– CA IDMS™ Partners – Trained and Certified by CA
Coordination	– Single repository for data – CA Services Clarity Project Management web site – Dev. and support synchronized with M3A Service technicians
Fee	– Yearly based retainer plus T&E

CA IDMS™ Presspack

■ Customer Value

- Data compression can result in significant savings in disk space requirements
 - Translates into dollar savings in monthly rentals, maintenance, floor space and channel costs
- Helps reduce backup/archival processing and improve data security
- CA IDMS™ Presspack's compression efficiency makes it an ideal tool for compressing large-volume databases

■ Customer Benefits

- Fully zIIP-able means our compression utilizes the extremely efficient, low-cost zIIP engines to do all compression and decompression processing
- Reduces DASD footprint by 30-70% -- saves real dollars
- Improves memory use within the database region
- Benchmark tests have shown that converting an compressed IDMS table to compression saves enough physical IO CPU to offset CPU used to do compression -- but the CPU is now zIIP which is significantly cheaper

Summary

- CA IDMS 19.0 is GA now
- Addresses modernization, security, and availability
- New installation media on CSO
- Standard support policies including CARS



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