About the Speakers

Terino McMullen

Sr. Program Manager

Southern California Edison

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Terino has 10+ years of SAP business process improvement and SAP Program Management/Delivery experience. In addition, he has 15 years of Utility industry experience, with a portfolio of successful projects spanning core functions such as Supply Chain, P2P, EAM, Finance, Contingent Worker/Services Management.

He is currently a member of SCE's Information Technology – Solution Planning and Delivery Organization, serving as the Sr. Program Manager for the Enterprise Platform Core Refresh Program.

Ram Battula

Principal Technology Architect

Infosys Limited

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Ram has 16+ Years of SAP Consulting, Architecture and Program Management experience. He worked with customers across Utility, Retail, CPG, Auto, Railroad and Hi-Tech Industries and has delivered large SAP Transformation programs.

He is key member of SAP Transformation Center of Excellence at Infosys which primarily focuses on customer adoption of new products/technologies. Ram specializes in S/4HANA adoption and helps customers defining their S/4HANA roadmap and ensuring smooth transition.

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Key Outcomes/Objectives

1. Gain insights on developing an enterprise digital transformation roadmap

2. Learn key challenges related to SoH and S/4 HANA implementations and strategies for addressing them successfully

3. Gain valuable knowledge and insights on executing complex HANA migrations

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Agenda

- SCE Introduction
- Planning the Journey
- Executing the Journey

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Introducing Southern California Edison (SCE)

2017 AT A GLANCE

UTILITY OF THE YEAR
by industry publication
Utility Dive

#1 UTILITY
for energy storage nationally[1]

Transition to a Clean Energy Future

46%
OF THE ELECTRICITY THAT SCE DELIVERED TO CUSTOMERS CAME FROM CARBON-FREE RESOURCES.

No coal in owned generation or contracts for specified resources.

EDISON ELECTRIC INSTITUTE
EDISON AWARD
for installing the world's first battery and gas turbine hybrid system at two peaker sites

400 MW+
OF OFF-SITE RENEWABLE ENERGY PROCUREMENT
for Edison Energy customers

WE ARE STILL IN
Edison International joined other U.S. businesses, universities, and state and local leaders in signing an open letter to the international community demonstrating support for the 2015 Paris Climate Agreement.

Operations

50,000
SQUARE MILES
of SCE service area across coastal, central, and southern California

$12.3B
TOTAL OPERATING REVENUE

80%+
OF SCE POWER GENERATION FROM THIRD-PARTY SOURCES:
3,200 MW of owned generation.

118,000
MILES OF DISTRIBUTION & TRANSMISSION LINES

Customers, Communities & Employees

12,521
FULL-TIME EMPLOYEES
of Edison International and consolidated subsidiaries

$21.8M
IN PHILANTHROPIC FUNDING
including $1.2 million in college scholarships to 30 Edison Scholars

5M+
CUSTOMER ACCOUNTS
covering SCE's service area, which has 15 million residents

3,574
SOLAR INSTALLATIONS
connected on average per month

[1] The Smart Electric Power Alliance ranked SCE Number 1 in energy storage in 2017 for adding more megawatts (MW) of energy storage than any other utility based on a survey of more than 400 utilities across the nation.

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Our Journey So Far…

Phase 3: SAP S/4HANA 1809 PoT

03

- SAP S/4HANA 1809 conversion
- Functional and technical remediation
- Innovation deployment:
  - Real-time consolidation
  - Embedded analytics
  - GEF based asset tracking

Phase 2: SAP HANA Transformation

02

- Upgrade and migration of all SAP applications to SAP HANA (SoH)
- Reduce system complexity and simplify landscape
- Improve system performance

Phase 1: Assessment, Roadmap and Business Case

01

- SAP S/4HANA and SoH feasibility and impact assessment
- Process improvements and business benefit identification
- Roadmap with various options and evaluation
- Business case

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Phase 1: Assessment, Roadmap and Business Case

SAP S/4HANA Assessment

- Comprehensive SAP S/4HANA 1610 and Suite on HANA Assessment
- Impact analysis across all dimensions – business process, configuration, custom code, interfaces, peripheral systems, org. change management, infrastructure
- Current pain points and S/4HANA Solution enablers
- Business process improvements with S/4HANA and business benefit identification

Roadmap Evaluation

- Multiple options evaluated:
  - Suite on HANA
  - Suite on HANA with S/4 Finance 1605 add-on
  - S/4HANA 1610 Enterprise Management
- Feasibility analysis for each option
- S/4HANA 1610 was not feasible due to EWM add-on component
- S/4HANA Finance 1605 option was not selected to SAP Product roadmap
- Suite on HANA was chosen as the feasible first step

Business Case

- Identification of Business value levers and operational levers
- Business benefit quantification
- Program cost estimation including Infrastructure, Services and Product license cost
- Business case preparation

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Enterprise Core Transformation Program – Business and Technology Objectives

## Gain Operational Efficiencies

- Improve on HA/DR SLAs
- Reduce production backup timing
- Faster system copy/refresh
- Test systems with better data quality

Improve Performance

- Faster period end close
- Faster payroll runs
- Real-time availability of data
- Faster loads to SAP BW

Eliminate Complexity

- Highly customized environment compared to peers
- Eliminate unused custom code
- Reduce system complexity
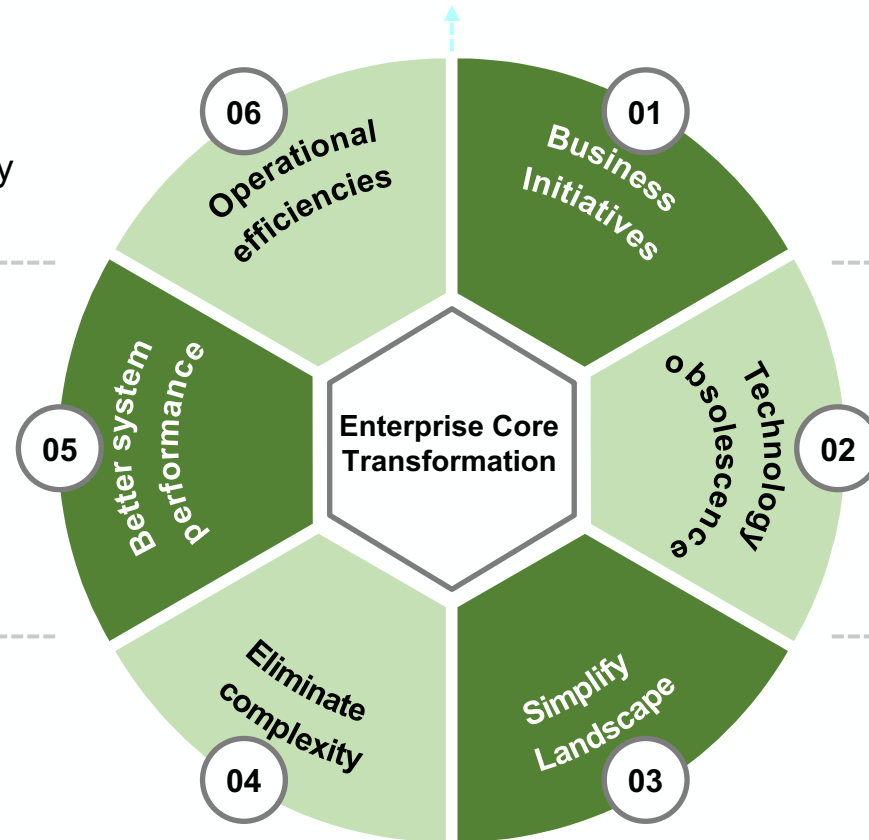
Enterprise Core to Support Large Business Initiatives

- Customer Service Re-Platform (S/4HANA)
- Grid Modernization
- HANA – Hadoop for improved data availability

Technology Obsolescence

- SAP hardware reached end of life and required refresh
- Application upgrade required for most of the SAP applications
- Eliminate dependency on older technologies

Simplify Large Landscape

- Consolidate applications
- Reduce number of instances
- Reduce complexity in environments
- Migrate lesser used environments to the cloud

Enterprise Core Transformation

06 Operational efficiencies
01 Business Initiatives
02 Technology obsolescence
03 Simplify Landscape
04 Eliminate complexity
05 Better system performance

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Phase 2: SAP HANA Transformation

Application Upgrade & Database Migration of 15 SAP Applications

- Netweaver stack upgrade to NetWeaver 7.5
- Application upgrade to latest version
- Migrate database from DB2 to SAP HANA 2.0
- Application Server migration from AIX to RHEL

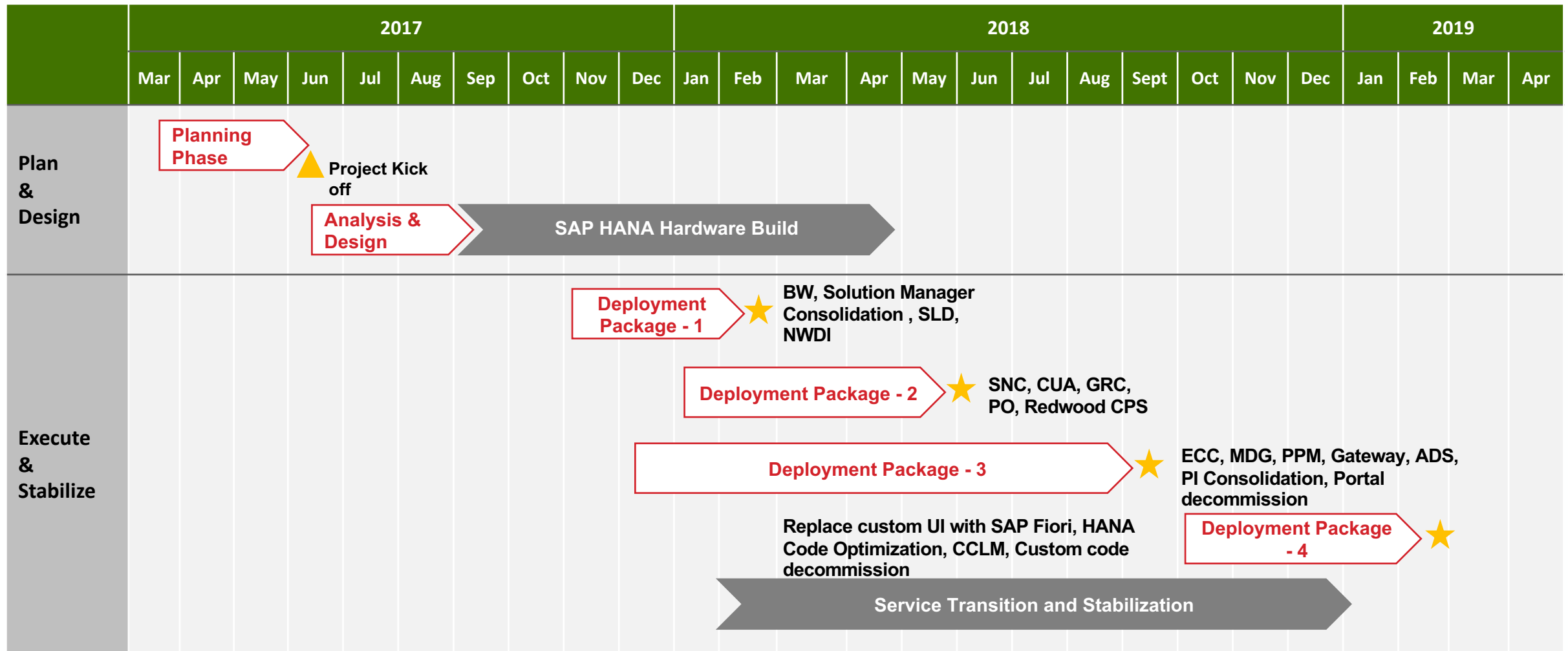
Landscape Simplification

- Consolidate 3 Solution Manager instances & PI/PO instances
- Archive 3TB (DB2 terms) of SAP ECC data
- Decommission Enterprise Portal and move to OKTA SSO (Single Sign-on) from Portal based SSO
- Implement CCLM to monitor custom code usage and setup process to archive unused code

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Infrastructure Build-out

- 104TB net-new HANA TDI Platform build using Cisco Compute and NetApp Storage
- Reduce number of environments from 9 to 6
- Migrate less used Sandbox & Training environments to MS Azure Cloud

Application	Source version	Target version
ECC	ECC6 EHP6 / NW 7.31 / DB2 9.7	ECC6 EHP8 / NW 7.5 / HANA 2.0 SPS01
MDG	MDG 6.1 / NW 7.31 / DB2 9.7	MDG 9.1 / NW 7.5 / HANA 2.0 SPS01
SNC	SNC 7.02 / NW 7.4 / DB2 9.7	SNC 7.04 / NW 7.5 / HANA 2.0 SPS01
PPM (ABAP)	PPM 5.0 / NW 7.02 / DB2 9.7	PPM 6.1 / NW 7.5 / HANA 2.0 SPS01
PPM (Java)	PPM 5.0 / NW 7.02 / DB2 9.7	PPM 6.1 / NW 7.5 / HANA 2.0 SPS01
BW	NW 7.3 / HANA 1.0	NW 7.5 / HANA 2.0 SPS01
CUA	NW 7.31 / DB2 9.7	NW 7.5 / HANA 2.0 SPS01
GRC	GRC 10.1 / NW 7.4 / DB2 10.5	GRC 10.1 / NW 7.5 / HANA 2.0 SPS01
PO	NW 7.31 / DB2 9.7	NW 7.5 / HANA 2.0 SPS01
PI	NW 7.31 / DB2 10.5	Consolidate & Decommission
Gateway	NW 7.4 / DB2 9.7	FES 3.0 / NW 7.5 / HANA 2.0 SPS01
ADS	NW 7.31 / DB2 9.7	NW 7.5 / HANA 2.0 SPS01
CPS	CPS 8.0 / NW 7.3 / DB2 9.7	BPA 9.1 / NW 7.5 / HANA 2.0 SPS01
SLT	NW 7.31 / DB2 10.1	NW 7.5 / HANA 2.0 SPS01
SolMan (00)	SolMan 7.1 / NW 7.02 / DB2 10.5	SolMan 7.2 / NW 7.4 / HANA 1.0
SolMan (90)	SolMan 7.1 / NW 7.02 / DB2 10.5	Consolidate & Decommission
SolMan (91)	SolMan 7.1 / NW 7.3 / DB2 9.7	SolMan 7.2 / NW 7.4 / HANA 1.0
SLD	NW 7.31 / DB2 9.7	NW 7.5 / HANA 2.0 SPS01
NWDI	NW 7.01 / DB2 9.7	NW 7.5 / HANA 2.0 SPS01
Portal	NW 7.31 SP5/DB6 9.7.0.4	Decommission

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Phase 2: SAP HANA Transformation – Project Plan and Duration

	2017										2018												2019			
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr

Plan & Design

- Planning Phase
- ▲ Project Kick off
- Analysis & Design
- SAP HANA Hardware Build

Execute & Stabilize

- Deployment Package - 1 ★ — BW, Solution Manager Consolidation , SLD, NWDI
- Deployment Package - 2 ★ — SNC, CUA, GRC, PO, Redwood CPS
- Deployment Package - 3 ★ — ECC, MDG, PPM, Gateway, ADS, PI Consolidation, Portal decommission
- Replace custom UI with SAP Fiori, HANA Code Optimization, CCLM, Custom code decommission
- Deployment Package - 4 ★
- Service Transition and Stabilization

- Program executed in three deployment packages to reduce risk and disruption
- "Deployment package – 4" to replace custom UI with SAP Fiori
- 3 cycles of integration/regression testing for all critical applications in each deployment package

- Performance testing to ensure adequate performance across application, database and network
- 6 weeks of hard freeze and 12 weeks of soft freeze per application

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Phase 2: SAP HANA Transformation – Tools & Automation

SAP SUM DMO

SAP Tool to upgrade application and migrate database to SAP HANA in single step

- 60+ SUM DMO runs executed across the program
- <14 hours for migrating SAP ECC system with 9TB DB2 compressed to SAP HANA

Panaya
An Infosys Company

Panaya Cloud Quality Suite for comprehensive upgrade & HANA migration impact analysis

- Custom code & Interface impact due to application upgrade & SAP HANA DB migration
- Test scope identification based on impact and system usage statistics

HANA CMO
(code migration & optimization)

Infosys proprietary tool for automated custom code remediation for SoH Migration and S/4HANA conversion

- 4800 custom code issues in SAP ECC remediated in less than a week
- 91% issues remediated automatically by HANA CMO tool

Other tools used:
- HP QC based automated regression testing
- Load Runner for performance testing, which included stress test, load test and endurance test

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Phase 2: SAP HANA Transformation – Key Improvements

5x times faster
period close process

2x – 5x faster
performance of top-20 highly used and critical transactions

2x – 20x faster
performance of top-200 frequently used and long running batch jobs

Lean SAP ECC system
database size reduced from 12TB on DB2 to 4TB on SAP HANA

Simplified SAP Landscape
number of instances reduces from 19 to 15

Improved System Availability
eliminated dependency on SAP Enterprise Portal which was bottle neck in terms of system availability

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Phase 3: SAP S/4HANA Conversion PoT and Innovation Deployment

PoT (Proof of Technology) to adopt S/4HANA digital core and explore new and advanced innovations

SAP S/4HANA 1809 Conversion

- EWM migration to new instance
- Customer vendor Integration
- S/4HANA 1809 conversion
- Finance conversion
- Functional and technical remediation

Finance innovations

- Embedded analytics with Fiori and analysis for office
- Embedded BPC
- Cash management and Accounts Payable integration

Fiori App installation

- SAP Fiori backend installation
- Installation and activation of selected Fiori apps in Finance & Enterprise Asset Management
- KPI modeler configuration

Enterprise Asset Management innovations

- GEF activation along with geo-spatial loads
- EAM to GEF integration
- ESRI to GEF integration

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Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:
http://info.asug.com/2019-ac-slides

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Q&A

For questions after this session, contact us at

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