Lenovo Best Practice – Innovation with SAP

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INNOVATION NEVER STANDS STILL

$46B GLOBAL PERSONAL TECHNOLOGY COMPANY
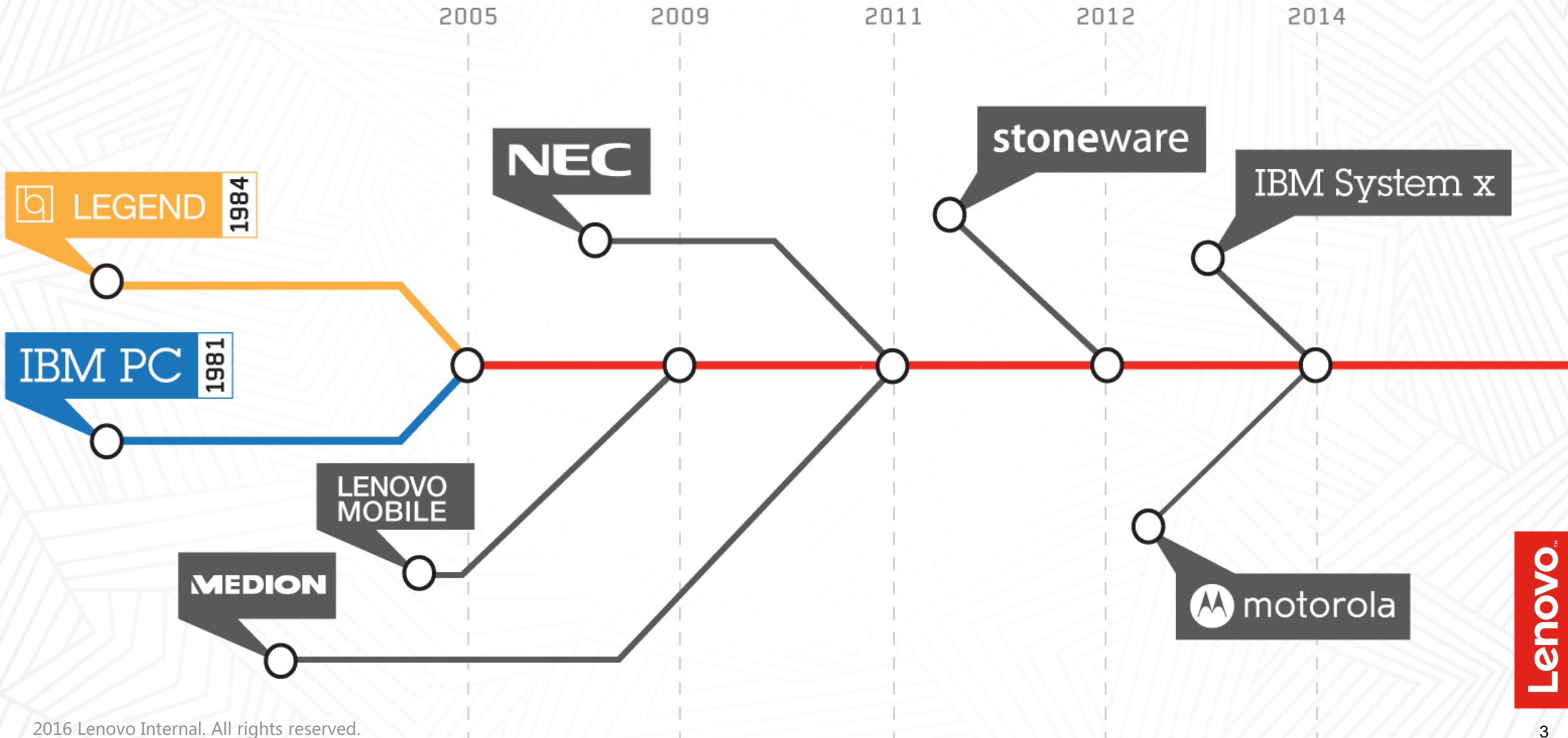
55,000 EMPLOYEES

CUSTOMERS IN **160+** COUNTRIES

231 ON THE GLOBAL FORTUNE 500 LIST

Merge and Acquisition

2005   2009   2011   2012   2014

NEC

stoneware

IBM System x

LEGEND 1984

IBM PC 1981

LENOVO MOBILE

MEDION

motorola

- ***Customer*** changed their buying behavior
- ***Technology*** provide new computing capability
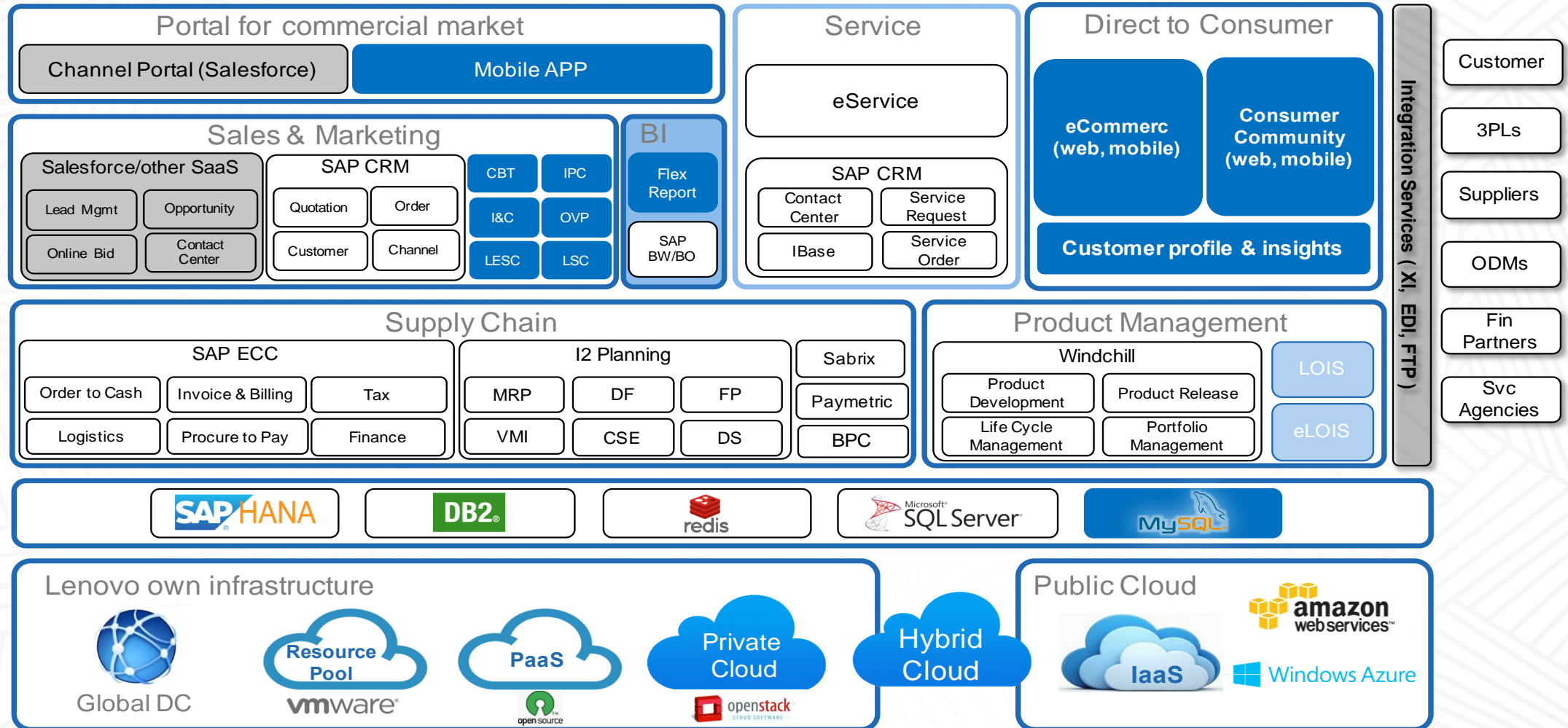- ***Ecosystem*** become the new route to market
- ***Talents*** I need you

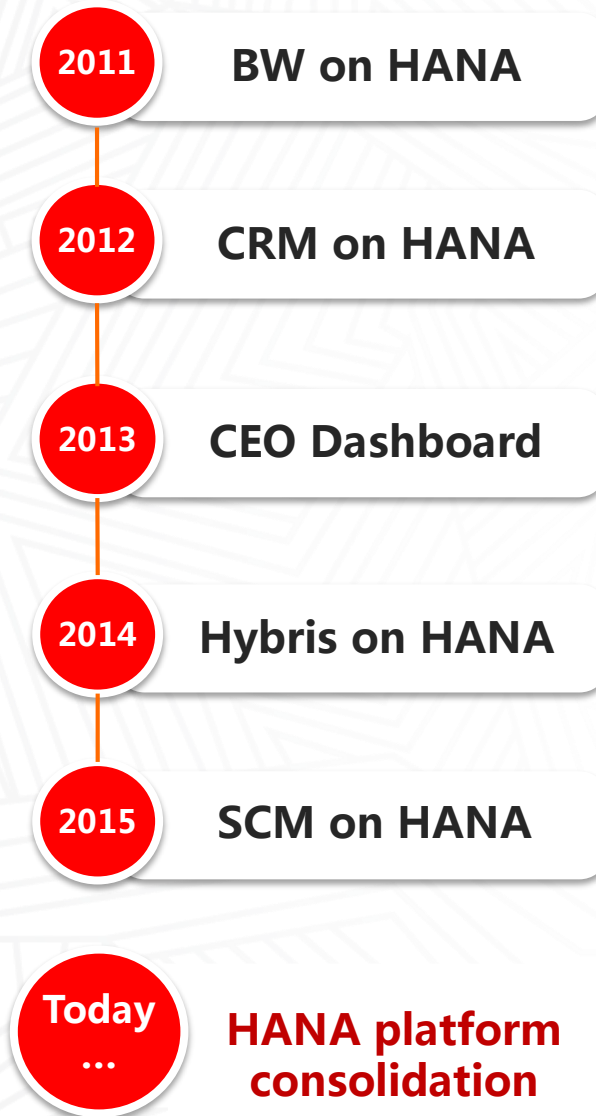# Challenge for Digital Ready Enterprise

Lenovo IT Architecture

On Promise Package Solution | Cloud Solution | Open Source/In House Dev

Portal for commercial market
- Channel Portal (Salesforce)
- Mobile APP

Sales & Marketing

Salesforce/other SaaS
- Lead Mgmt
- Opportunity
- Online Bid
- Contact Center

SAP CRM
- Quotation
- Order
- Customer
- Channel

CBT	IPC
I&C	OVP
LESC	LSC

BI
- Flex Report
- SAP BW/BO

Service
- eService

SAP CRM
- Contact Center
- Service Request
- IBase
- Service Order

Direct to Consumer
- eCommerc (web, mobile)
- Consumer Community (web, mobile)
- Customer profile & insights

Supply Chain

SAP ECC
- Order to Cash
- Invoice & Billing
- Tax
- Logistics
- Procure to Pay
- Finance

I2 Planning
- MRP
- DF
- FP
- VMI
- CSE
- DS

- Sabrix
- Paymetric
- BPC

Product Management

Windchill
- Product Development
- Product Release
- Life Cycle Management
- Portfolio Management

- LOIS
- eLOIS

Integration Services (XI, EDI, FTP)

- Customer
- 3PLs
- Suppliers
- ODMs
- Fin Partners
- Svc Agencies

SAP HANA | DB2 | redis | Microsoft SQL Server | MySQL

Lenovo own infrastructure
- Global DC
- Resource Pool — vmware
- PaaS — open source
- Private Cloud — openstack CLOUD SOFTWARE
- Hybrid Cloud

Public Cloud
- IaaS
- amazon web services
- Windows Azure

HANA@ Lenovo

2011 — BW on HANA
- **SAP first partner in China**
- **Key report performance improve 237 times**

2012 — CRM on HANA
- **Performance of trade promotion and interactive report improve 10 times**

2013 — CEO Dashboard
- **Advanced features of HANA Executive Dashboard**
- **Mobile functionality, real time analysis, quick decision**

2014 — Hybris on HANA
- **Ecommerce platform for new transactions model**
- **Strong support for sales season in holiday**

2015 — SCM on HANA
- **X86 product roadmap planning**
- **HANA as platform, enabling self-development**

Today ... — **HANA platform consolidation**
- Key SAP applications migrate to HANA
- Cost saving/performance improvement

Lenovo Hybris on HANA

SAP HANA® Enterprise Cloud

B2B

　100+ Countries;

　3000+　online Stores

B2C
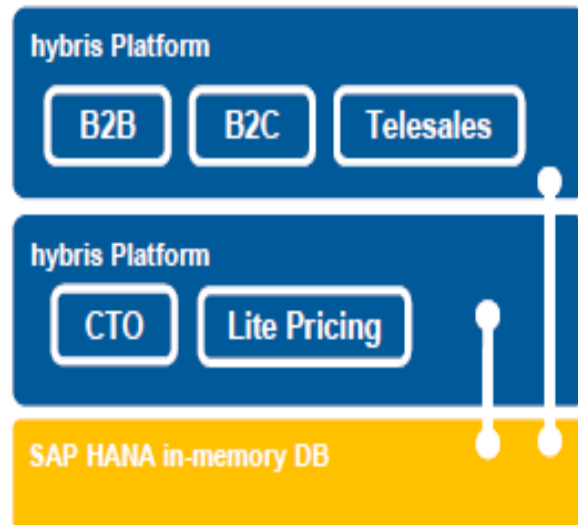
　70+ Countries;

　1000+　online Stores

Telesales

EMEA Commerce hub

hybris

NA/LA Commerce hub

hybris

APJ Commerce hub

hybris

Commerce Central integration hub
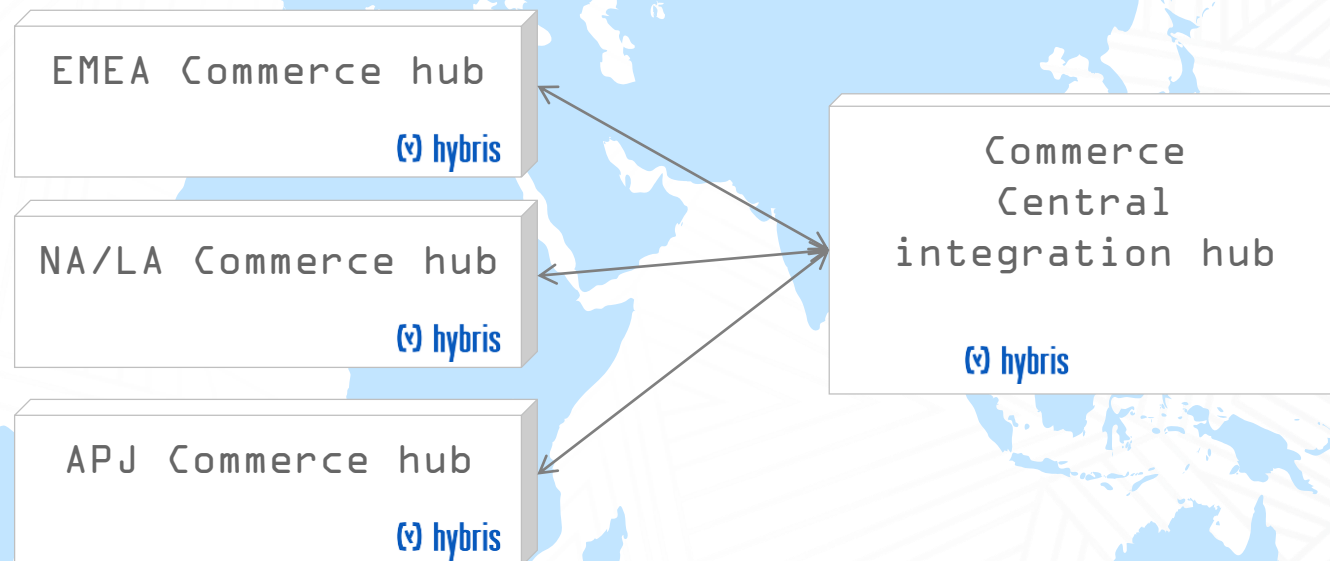
hybris

Hybris Solution Components

Region   Central

- Lower Costs
- High End-User Satisfaction
- Lower Risk

hybris Platform
- B2B
- B2C
- Telesales

hybris Platform
- CTO
- Lite Pricing

SAP HANA in-memory DB

SAP PI (NW 7.4) on DB ASE 15.7

hybris Platform
- Authoring
- Staging

SAP HANA in-memory DB

SAP ERP 6.0 EhP7

SAP HANA in-memory DB
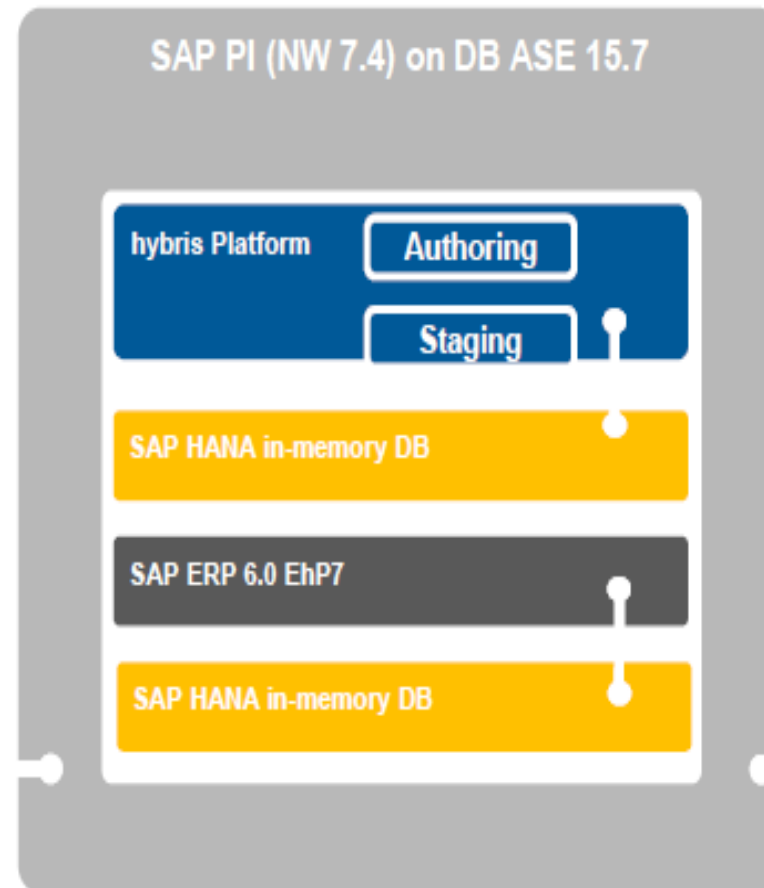
Lenovo X86 Server Transition

Business Background

- *Acquisition:* X86 Server Acquisition
- *TSA*: Large annual TSA costs

Mission

- Set up MTY plant & USFC plant for x86 manufacturing
- Build an E2E supply chain IT platform to enable Lenovo X86 manufacturing capability.
- New Planning Solution by SAP APO on HANA, VMI on HANA
- New Cost Forecast Solution by CFE on HANA

Challenges

- *Tight Schedule*: SC IT platform which lays an essential foundation must be completed in 10 months.
- *Complicated Business Logics:* Different & complicated biz logic of X86 server than legacy PC line.
- *Performance:* System architecture need to be reformed because of legacy VMI is too old and very slow, which impacts whole supply chain collaboration works.

X86 Server Planning Solution Powered By HANA

SCM on HANA

- APO/SNC on HANA
- Integrated liveCache on HANA Server for planning acceleration
- Use AMDP (*ABAP Managed Database Procedure*) & CDS(Core data services)(CDS)
- Real-Time Reporting for material planning on HANA

VMI/CFE on HANA

- Custom development non-sap system on SAP HANA XS
- Native HANA Application Platform with SAP UI5
- VMI & CFE on the same HANA instance
- ODATA for data provision instead of all file exchanges
- XS jobs for data archive job scheduling
- Mixed CR&DU Transport by HANA Life Cycle Management
- 100+ UI5 Screens /500+ Roles
- 100+ Customized tables / 490+ Store Procedures
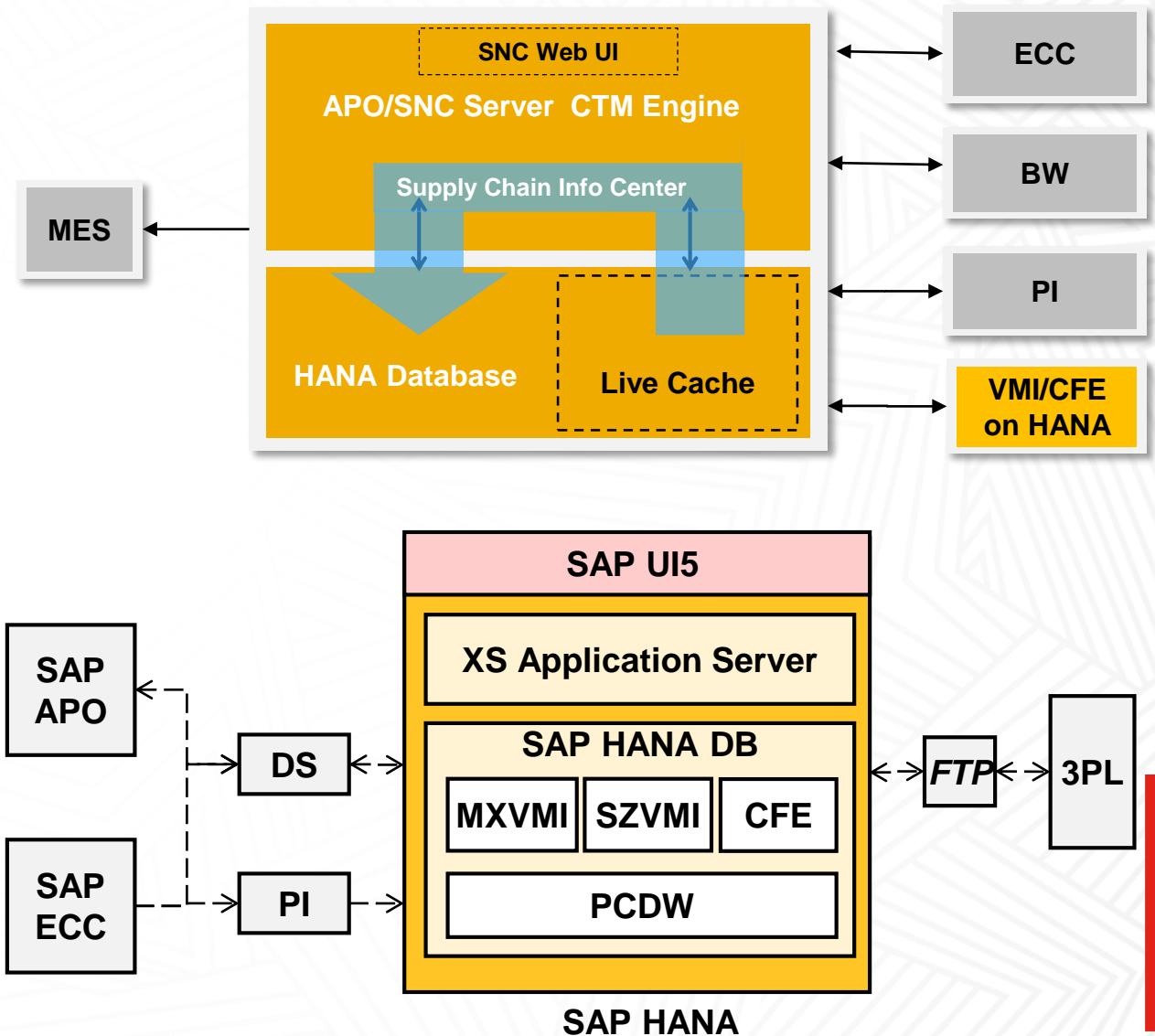
Benefits & Values

Secure the commitments

Optimize business work model with robust IT platform

Save TSA cost and labors

Pioneer on HANA Technology exploration & implementation

Customer Voice

Global Planning & Purchase Dept.
" It's really cool for us to do the cost calculations anytime, anywhere. Even on the global planning meeting, we can change or add the expense factor and immediately see the result. That really changes a lot on our daily work."

Global Supply Chain & Planning Dept.
" All processes are much faster and smarter with high automation. We can process 3 times supplier collaboration process of supply chain than before. Our planning support team, used to stand by at night, now they could have very good sleep ."
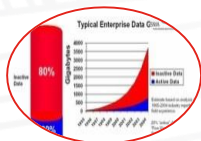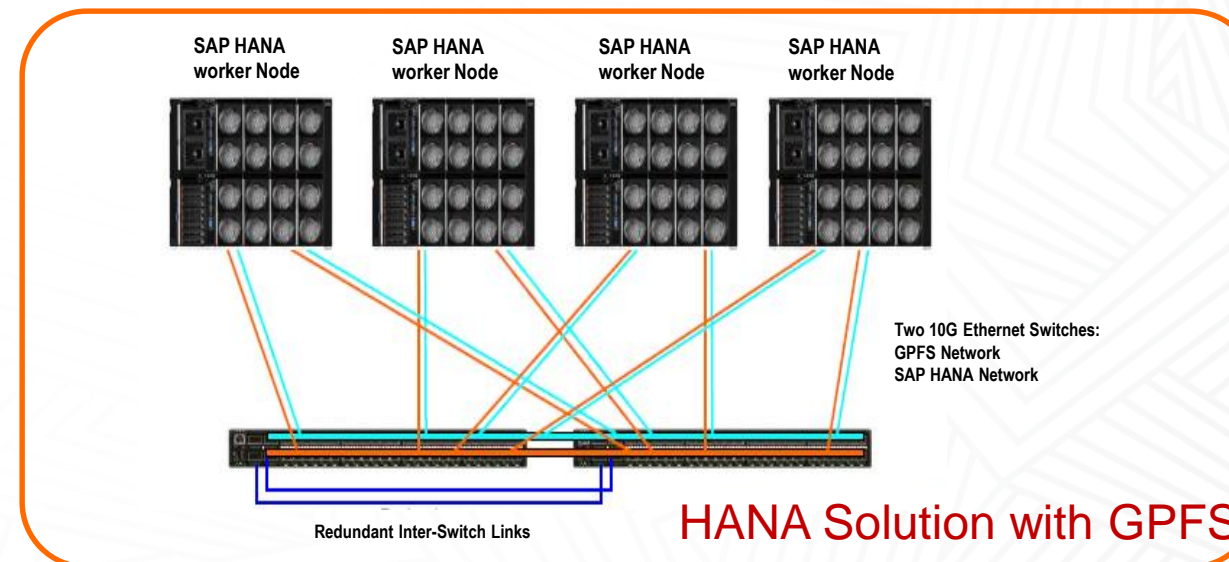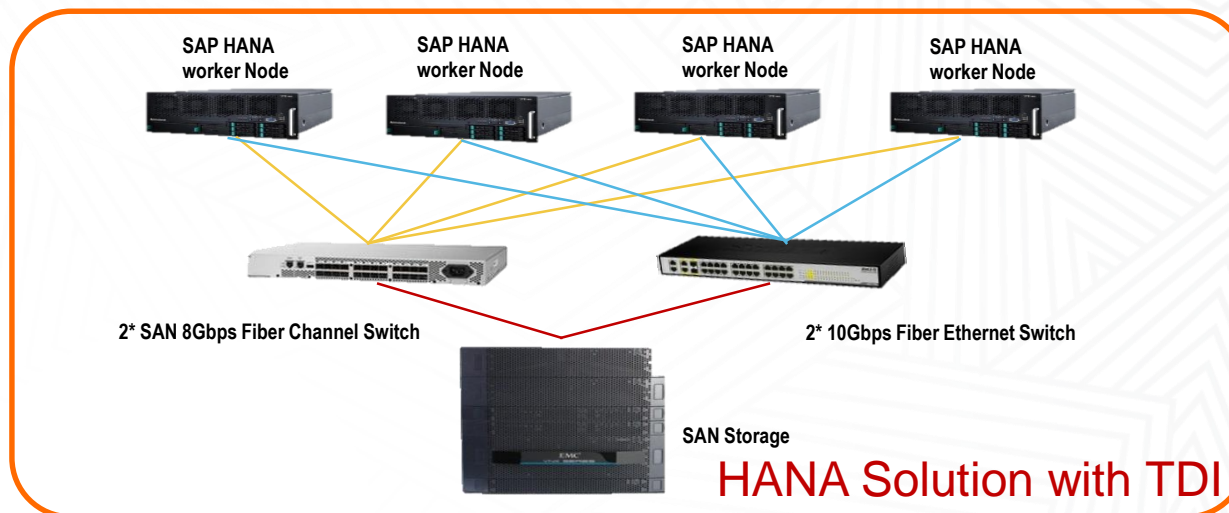
Best BW HANA in AP

No.1 in AP

86% hardware saving

45 X improvement of reporting performance

50 X improvement of data loading

SAP HANA worker Node   SAP HANA worker Node   SAP HANA worker Node   SAP HANA worker Node

2* SAN 8Gbps Fiber Channel Switch

2* 10Gbps Fiber Ethernet Switch

SAN Storage

HANA Solution with TDI

SAP HANA worker Node   SAP HANA worker Node   SAP HANA worker Node   SAP HANA worker Node

Two 10G Ethernet Switches:
GPFS Network
SAP HANA Network

Redundant Inter-Switch Links

HANA Solution with GPFS

BW HANA

APP Layer

| ASCS NW740 | ASCS NW740 | PAS NW740 | AAS NW740 | AAS NW740 | AAS NW740 |

HA　　　　　　　　　　　　　　　　　　　　　　　　　　**NFS**

HANA Layer

Switch

| Master | Slave | Slave | Slave | Slave | Slave | Slave | Slave | Slave | Slave | Slave | Backup |

| Disk | Disk | Disk | Disk | Disk | Disk | Disk | Disk | Disk | Disk | Disk | Disk |

Looking for the ready talent for the market

Hot job opening for technical expert:
- ✓ Business Intelligent
- ✓ Big Data
- ✓ E-commence
- ✓ Mobility

Business sense:
Good sense for optimization of business operation

Creation：
Fresh blood with innovation ideas