Next Gen Distributor Mgmt System

SAP B1 OFFLINE SOLUTION DASHBOARD

SAP BTS VDP IT Capability Match – Program Debrief

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Agenda

- POST
- Offline High Level Architecture
  - SAP B1 Product Overview
  - Proposed Overall NGDMS Architecture
- Offline Integration
  - Master Data Guiding Principles
  - Transaction Data Guiding Principles
  - Configuration Data Guiding Principles
- Key Offline Process Gaps and Changes
  - Sub-distributor Operations
    - *Understanding of Branch requirements*
    - *Solution options to support Branch operation*
    - *Our Recommendations*
  - Promotions
    - *Overall Promotions Scenario*
    - *Scylla Promotions*
    - *Proposed Promotions Scope*

POST

Purpose: The purpose of this material is to provide an initial overview of the offline solution scenario and some key process differences and to act as a precursor to the deep dive solution workshops that commence from the 19th September 2011 onwards.

Outcome: The outcome of this session is to arrive at agreements on the solutioning of some of the complex gap areas of B1 such as the scope of promotional functionality and the branch distributor solution details, and set a good understanding and expectation for the solution workshops.

Structure: The structure of the content covered today is mainly around:

- High level NGDMS architecture incorporating the offline scenario (First Half)
- Offline-online Integration principles and data flows (First Half)
- Key process gaps in offline scenario (Second Half)
    - Branch Operations
    - Promotions

Time : The time planned for this session is one full day (11th September 2011)

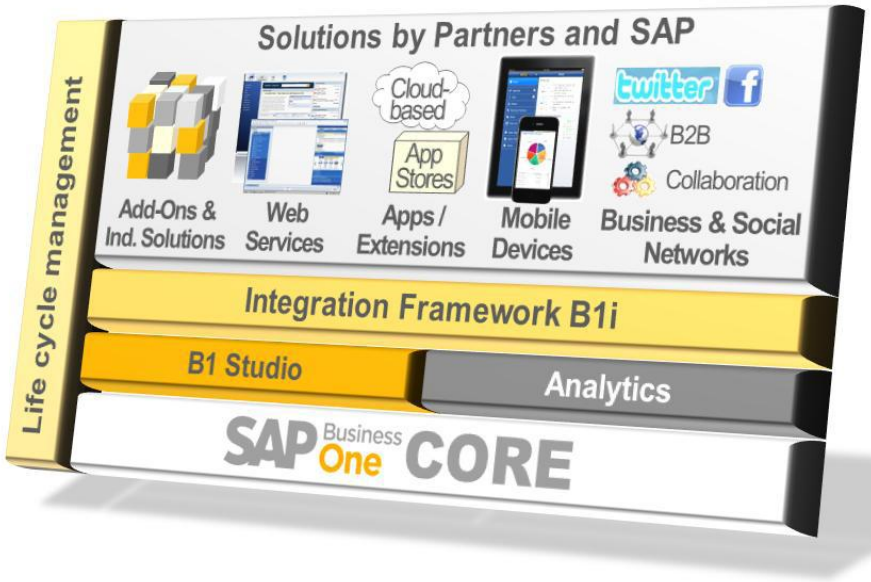
OFFLINE SOLUTION

High level architecture

B1 Product Overview

•SAP Business One is a business management solution designed for small and midsize businesses and is a single application that integrates all core business functions across the entire company, including financials, purchasing and sales, customer relationship management, inventory, operations and reporting.

•SAP Business One has a user-friendly interface that serves as your central ERP access point, with standard interfaces to internal and external data sources, handheld computers, and other analysis tools.



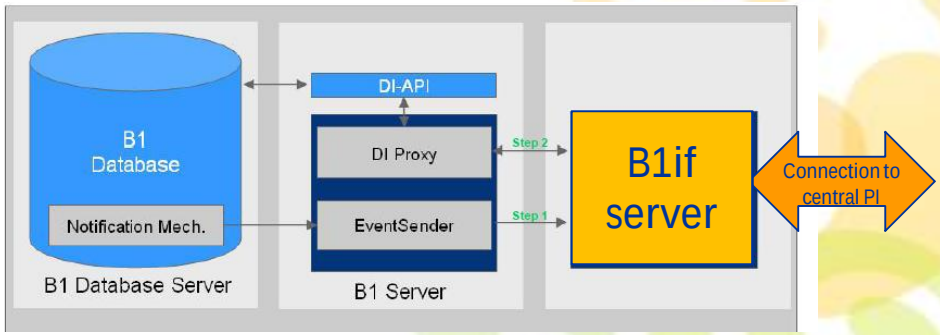
•The two key components of the SAP B1 that we will go through for an understanding of the architecture layout is the Integration Framework (B1if) and the support platform (RSP).

B1 Integration Framework

•SAP Business One, running on a customer site often needs to talk to other SAP applications running on partner sites, such as suppliers and vendors sites, thus requiring integration to these SAP Suite components. This functionality is provided by the SAP Business One integration Framework layer (B1if).

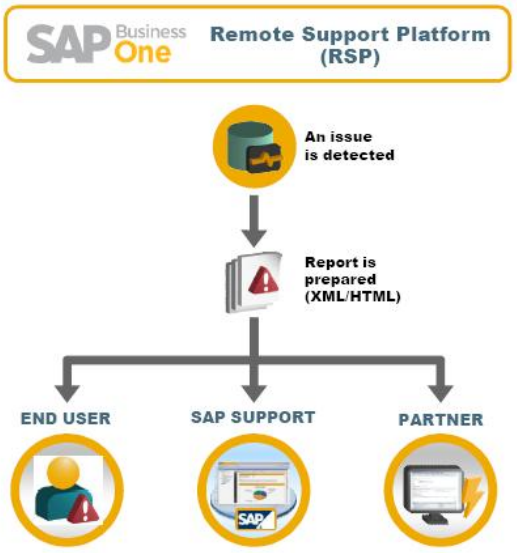
SAP B1 Integration framework (B1if) with solutions:

- *SAP Business One integration for SAP Net Weaver (B1iSN)*
- *SAP Business One integration Component (B1iC)*
- *SAP Business One Branch Consolidation (B1BC)*



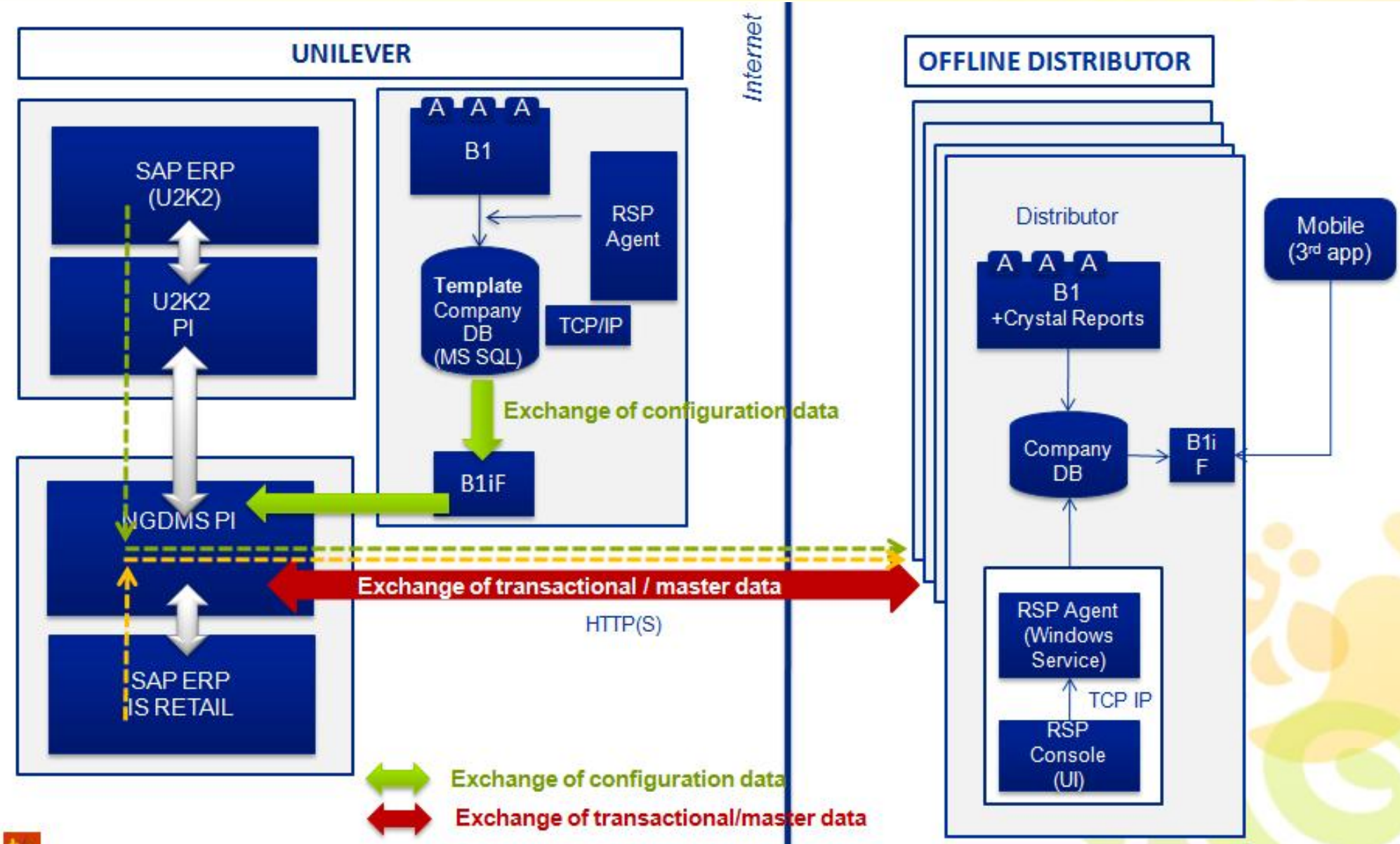
B1 Remote Support Platform

RSP is a free support application tool that performs proactive system and database maintenance through scheduled system monitoring, health checks and remote repair of time-consuming maintenance issues and also assists with implementations, patch downloads, and upgrades to ensure smooth daily business operations.



The RSP agent is the software installed on the customer side, consisting of two main components which are the agent console of remote support platform for SAP Business One, which is a client application that provides the user interface for controlling and configuring the agent service of remote support platform for SAP Business One.

Proposed NGDMS High Level Architecture



Masters and Data flow

Masters and Transactional Data flow

The NGDMS PI will act as the primary single point of integration which will enable the various components and interfaces in the scenario to talk to the local B1 instance through B1if. Hence, it will be the key integration component that will serve as the connecting bridge between the U2K2 PI and the local B1if's, eliminating the need for a centralized B1if.

All masters and transactional data flow from U2K2 and ISR through the NGDMS PI to local B1. Central configuration server talks to NGDMS PI to send down configuration data to local B1 instances

U2K2 masters and data : U2K2 ↔ U2K2 PI ↔ NGDMS PI ↔ Local B1if ↔ SAP B1

ISR masters and data : ISR → NGDMS PI → Local B1if → SAP B1

Configuration

Configuration Template Management

•There will still be a central B1 instance which will act as the configuration template server.
•This central B1 will have standard B1iF as well as RSP components.
•The RSP component can be leveraged to manage the country wise configurations, which will then get pushed down to the various local B1 instances.
•To maintain NGDMS PI as the primary talking point to local B1 systems, the central B1 configuration server first talks to NGDMS PI to push down configuration data to local B1 instances through the local B1if.
• For multi-country scenario, we might require country wise database instances to store country wise configurations

Configuration Data : Central configuration B1 server → Central B1if → NGDMS PI → Local B1if → SAP B1

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Integration Principles

Master Data Guiding Principles

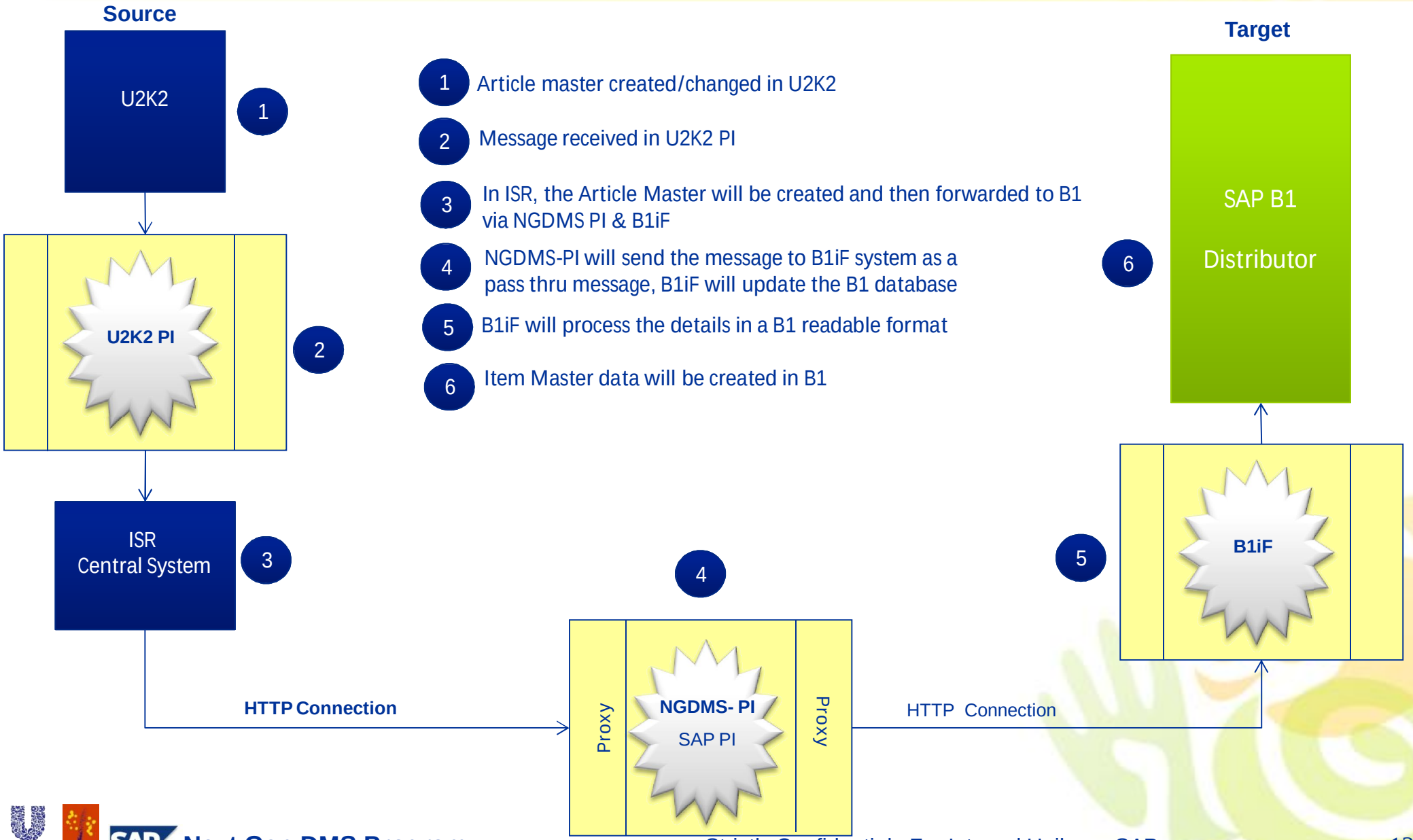
- Master data
  - ISR will be the only source of centralized master data
  - Some of the local masters such as salesman masters, will be allowed to be maintained by the distributor

- The reasons for ISR as centralized master data management are
  - Centralized Master Data Control – Creation & Approval
  - Single source of Master Data information
  - Ensure the data consistency between ISR and B1
  - Easy to support & monitor the interfaces

- The following are the Master data that will be maintained centrally

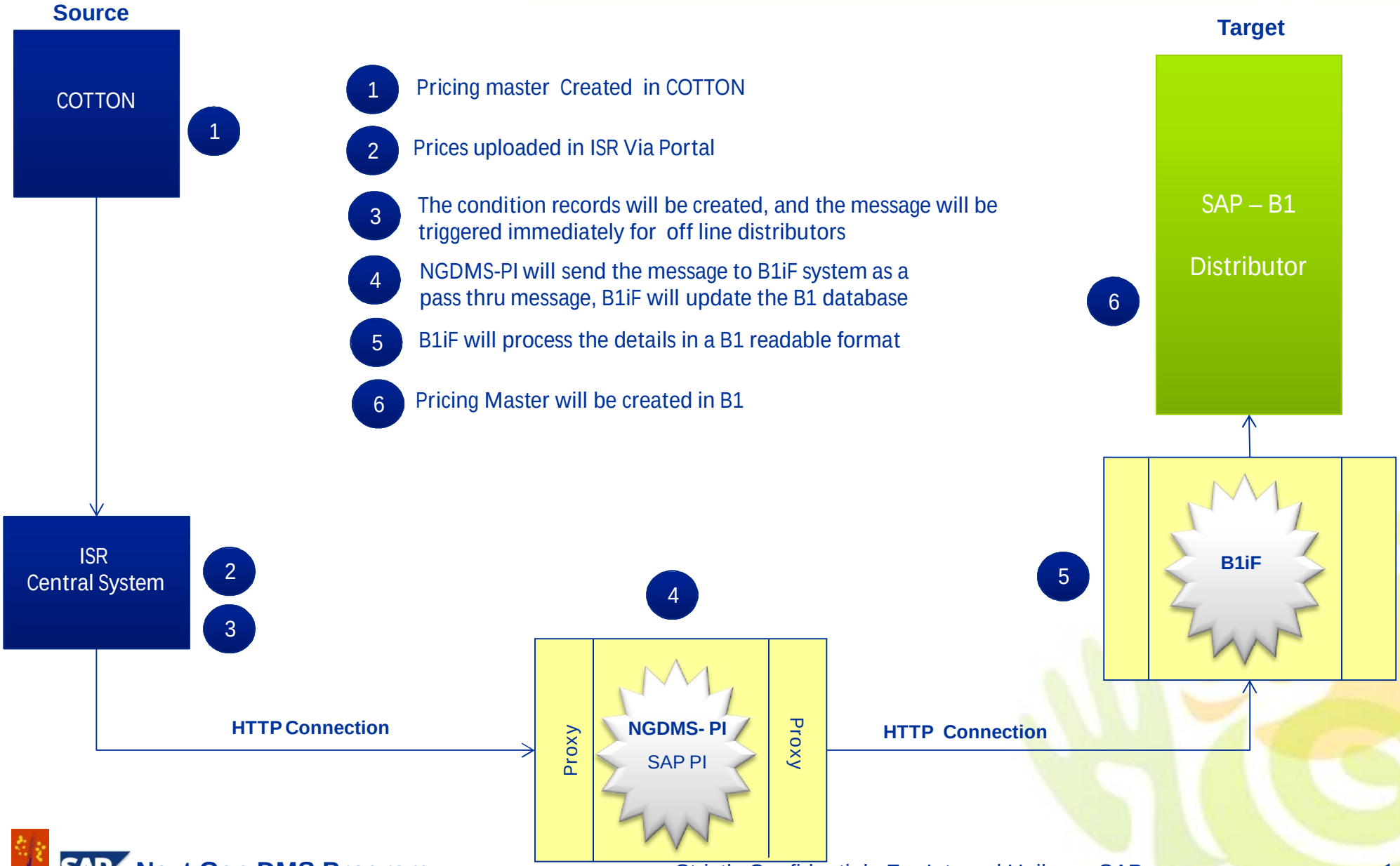
Type	Object name	Leading system
Master Data	Article Master	ISR
Master Data	Customer Hierarchy	ISR
Master Data	Outlet Master	ISR
Master Data	Pricing	ISR

Interface Flow: Article Master



1. Article master created/changed in U2K2
2. Message received in U2K2 PI
3. In ISR, the Article Master will be created and then forwarded to B1 via NGDMS PI & B1iF
4. NGDMS-PI will send the message to B1iF system as a pass thru message, B1iF will update the B1 database
5. B1iF will process the details in a B1 readable format
6. Item Master data will be created in B1

Interface Flow: Pricing Master

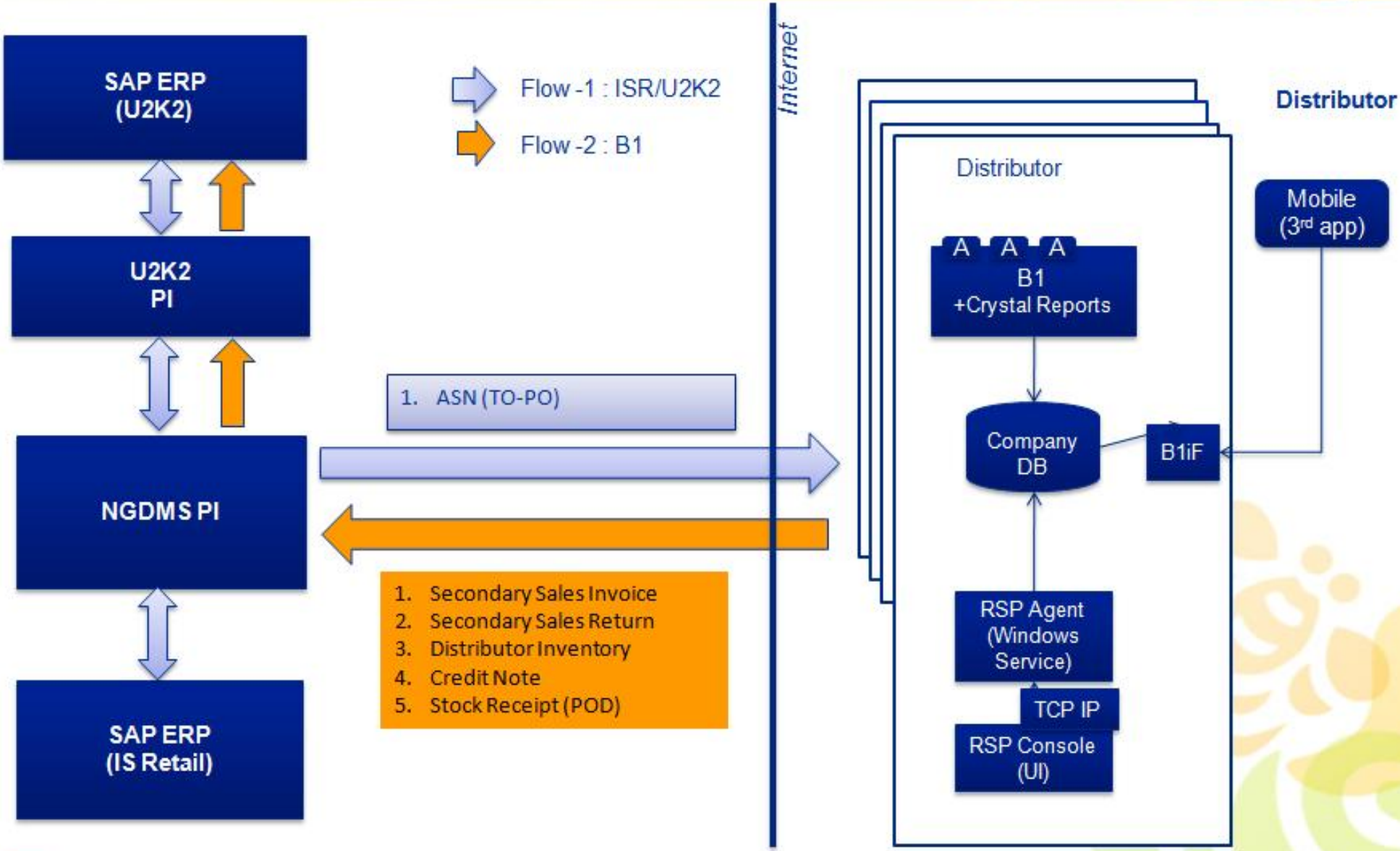


1. Pricing master Created in COTTON
2. Prices uploaded in ISR Via Portal
3. The condition records will be created, and the message will be triggered immediately for off line distributors
4. NGDMS-PI will send the message to B1iF system as a pass thru message, B1iF will update the B1 database
5. B1iF will process the details in a B1 readable format
6. Pricing Master will be created in B1

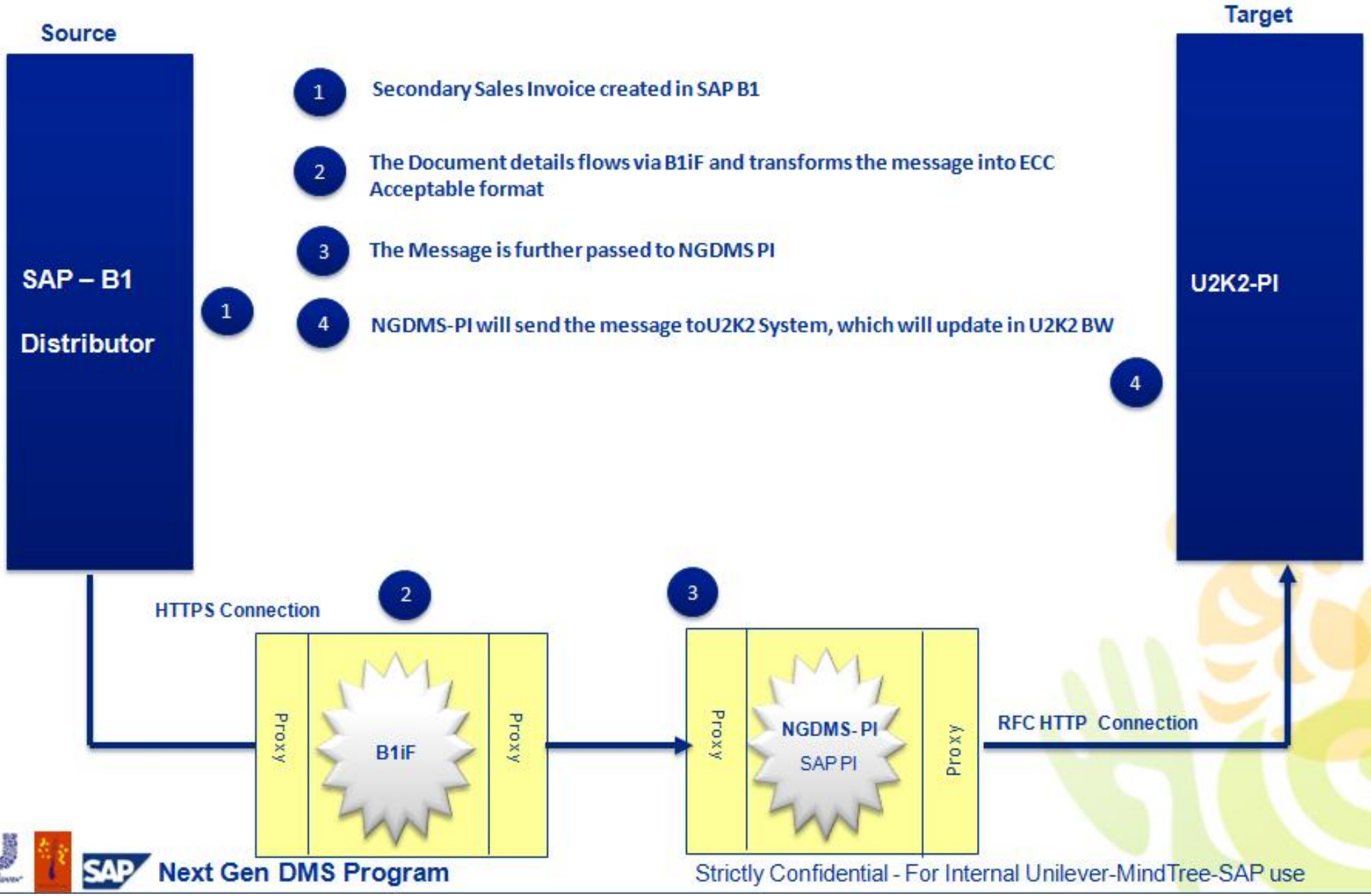
Transactional Data Guiding Principles

- Transaction data
  - Transaction data received from U2K2 (e.g. ASN) , will not be processed in ISR. The message will be directly processed in SAP B1.
  - The transaction message from SAP B1 will be routed to U2K2 directly. This will not be available in ISR
  - No Transaction of SAP B1 will be replicated in ISR
- The reasons
  - High efforts to automate the process chain in ISR
  - SAP B1 distributor will not be have access in ISR.

Interface Flow : Transaction Data



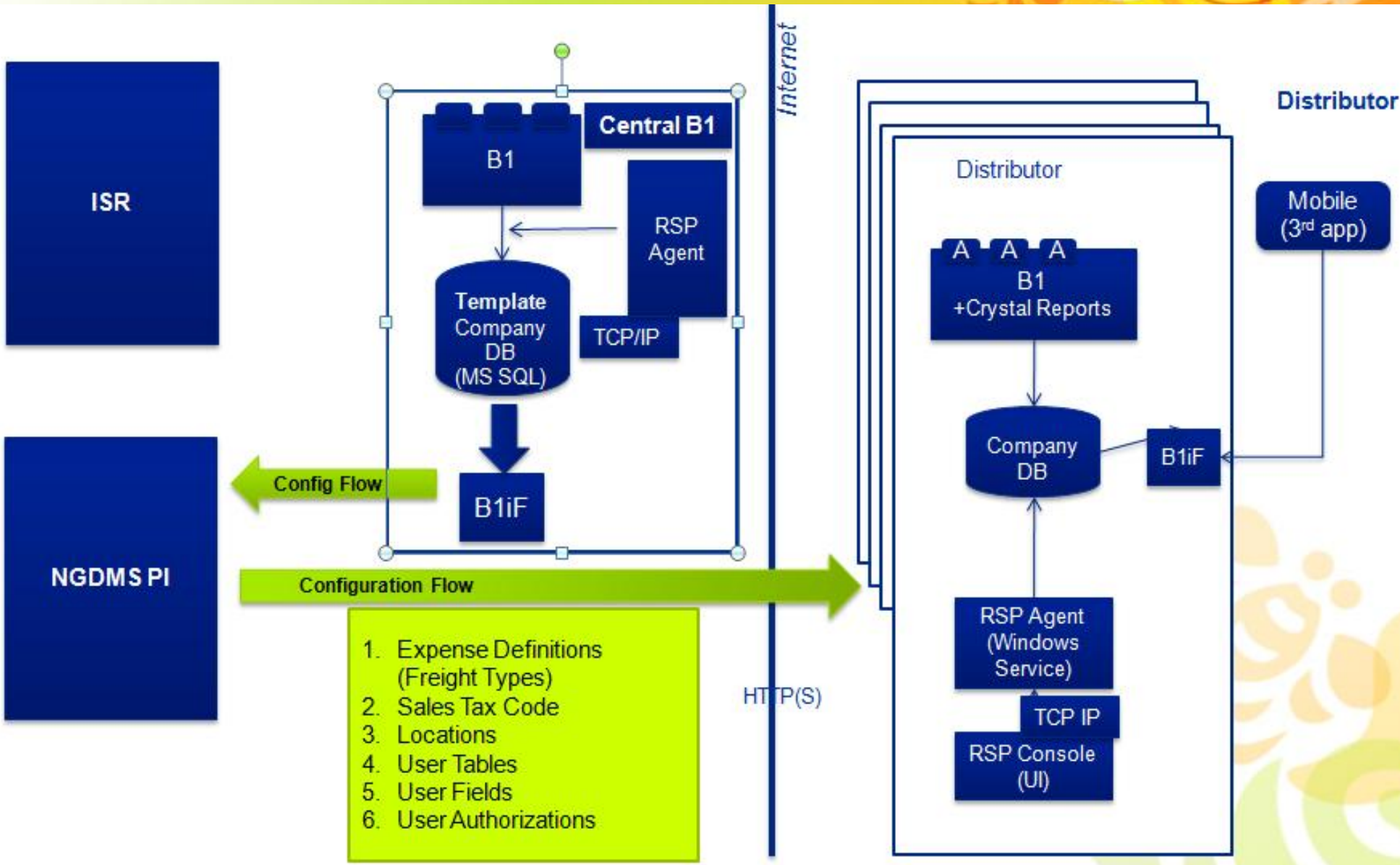
Interface Flow: Sales invoice Transaction Data



Configuration Data Guiding principles

- Configuration data
  - The Org structure for the distributor will be created in ISR
  - The same org structure will be maintained in SAPB1 (where ever applicable)
  - There will be no automatic configuration flow between ISR and SAP B1(central system). The entries needs to be maintained manually in both the systems.
  - All the program changes will be done in the SAPB1 central system, and passed on to SAP B1 systems.
- Reasons
  - Centralized control on the configuration data/ program changes
  - Easy deployments of changes required during the ongoing maintenance phase.

Interface Flow : Configuration Data



OFFLINE SOLUTION

Key system gaps and process changes

Offline system gaps

Having covered the offline scenario's architecture and integration layout, the objective of this part of the deck is to introduce some significant gaps and process changes of the offline system compared to the online ISR system.

An initial B1 gap fit analysis was done and presented to the Indonesian team, covering the full list of identified product and process gaps with some early thinking of possible enhancements and workaround solutions.

The two key gap areas that we will be picking as a start up in this session are promotions and sub-distributor operations, which are the two main and potentially complex system gaps in the offline scenario and thus will entail considerable process changes from the online scenario.

Other process areas and related gaps with the next level of gap fit details will be picked up in more detail over the course of next week during the full fledged solution workshops, with the groundwork for the promotions and branch operations being covered today.

SAP B1 Positioning

The offline scenario comes with certain technical and system limitations that present a challenge when realizing some advanced capabilities such as those shown below, one of which is sub distributor operations.

The next couple of slides will present possible options for sub-distributor operations in the offline context and present the related functionality gaps and workaround solutions.

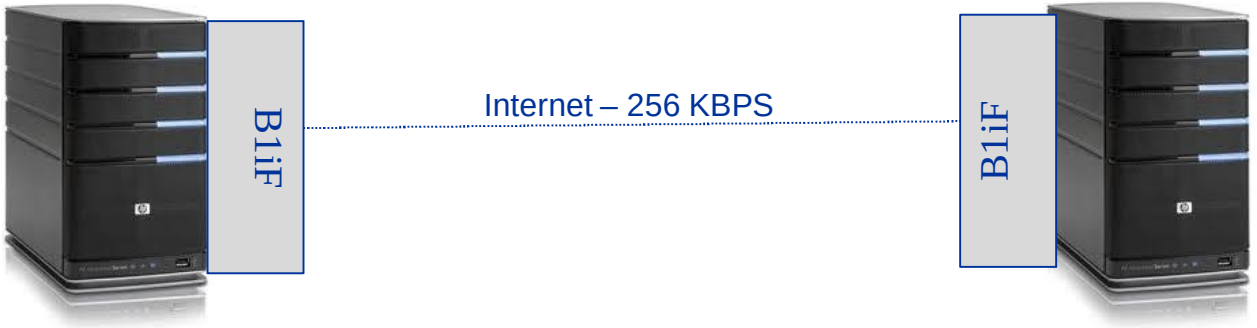
Online	Basic	Offline
✓	Purchase to Pay	✓
✓	Order to Cash	✓
✓	6P Control	✓
	Advanced	
✓	Cabinet Control	✗
✓	Remote Ordering	✗
✓	Cashless Payment	✗
✓	Efficient Logistics	✗
✓	Route Planning	✗
✓	OTA	✗
✓	Multi-Location Ops	✗
✓	Sub-Distributor	✗
✓	CRM Loyalty	✗

Understanding of Branch requirements

Process	Distributor location	Branch Location
Good receipt	✓	✓
Account Payable	✓	x
Secondary Sales	✓	✓
Reporting to ULI	✓	x
Common Master data	✓	✓

- Site 2 site transfer process involving branch operation, cannot be addressed in SAP B1
- Workaround solution will be discussed in detail during the solution workshop

Option 1 : Multiple B1 instances



- Reliable Internet Connectivity required for synch up of data between Main and Branch Location
- Sync up needs to happen regularly to ensure the updated master data is available, in the branch location
- Transactions can be performed in both the locations, with out any inter- dependencies

SAP B1 Integration capability

B1iSN

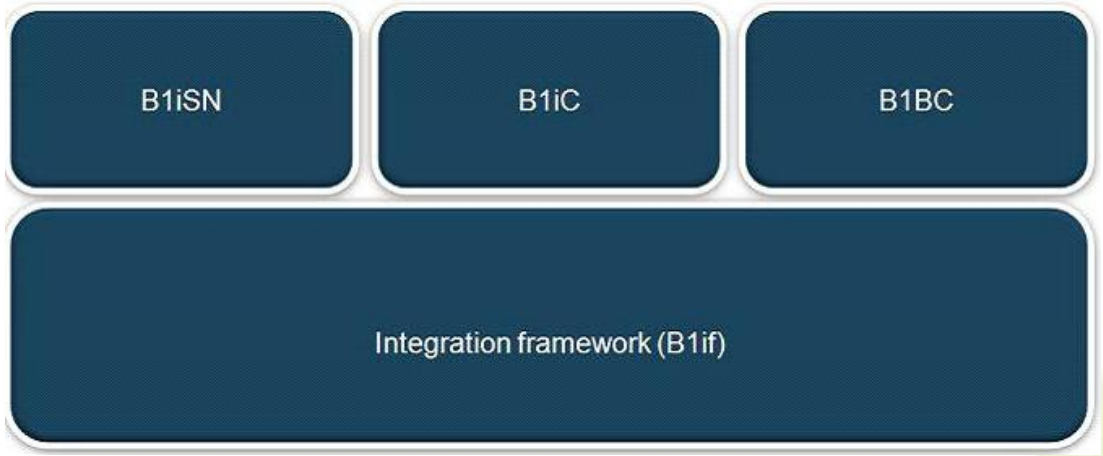
• Applicable for customers using NW components in their headquarters and SAP Business One in their subsidiaries.

• Typical Scenario : SAP is being used in the Headquarters and B1 deployed in Subsidiaries

B1BC

•SAP Business One Branch Consolidation (B1BC) is running on top of B1if.

•Customers which are running multiple SAP Business One systems connected to each other. B1BC is automatically synchronizing the business data and provides a strong financial consolidation



SAP B1 Integration Development - Overview

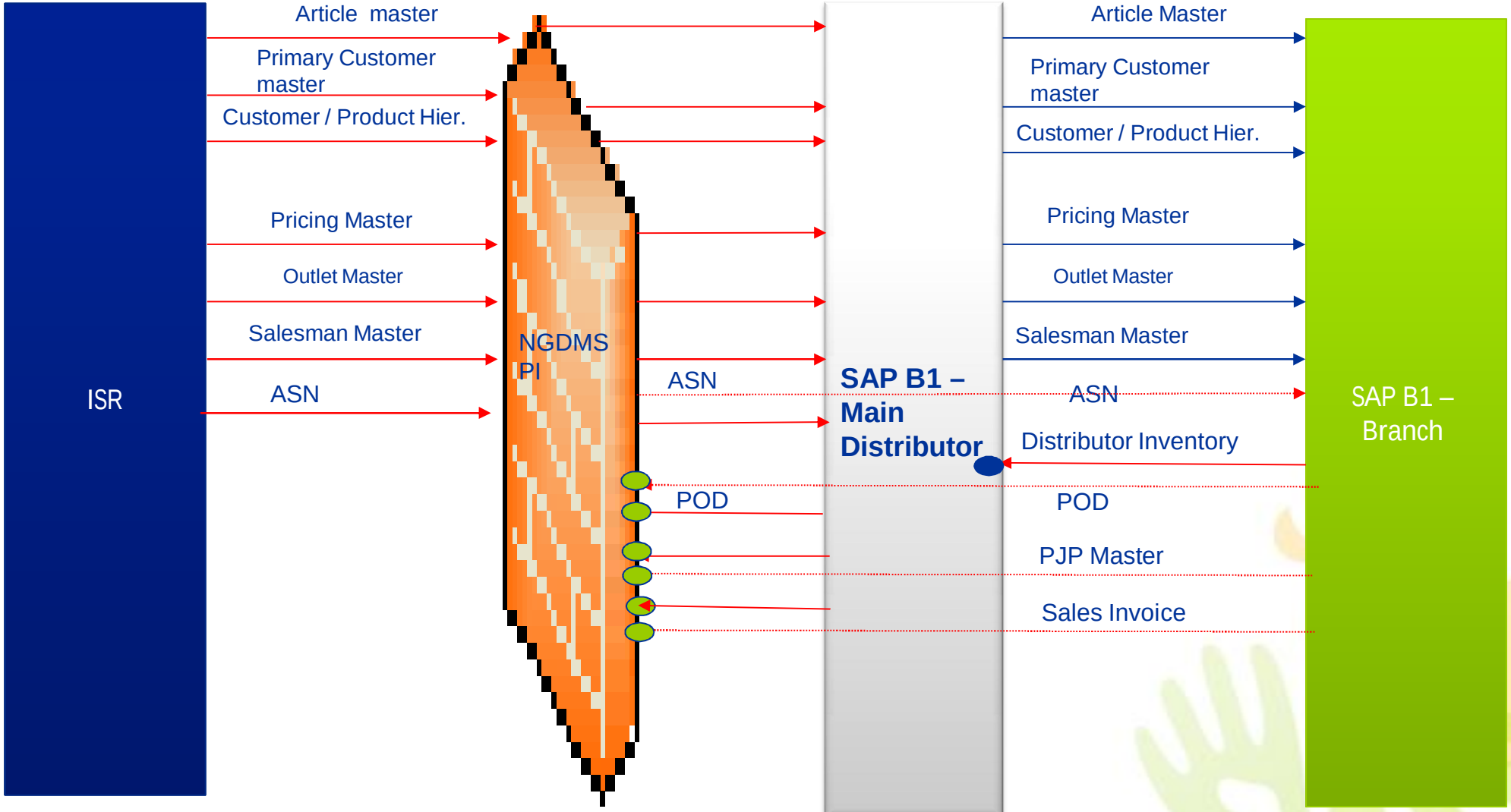
- The integration scenarios needs to be build using B1if.

- Standard replication scenario available for Customer Master/ Article master data between SAP B1 instances

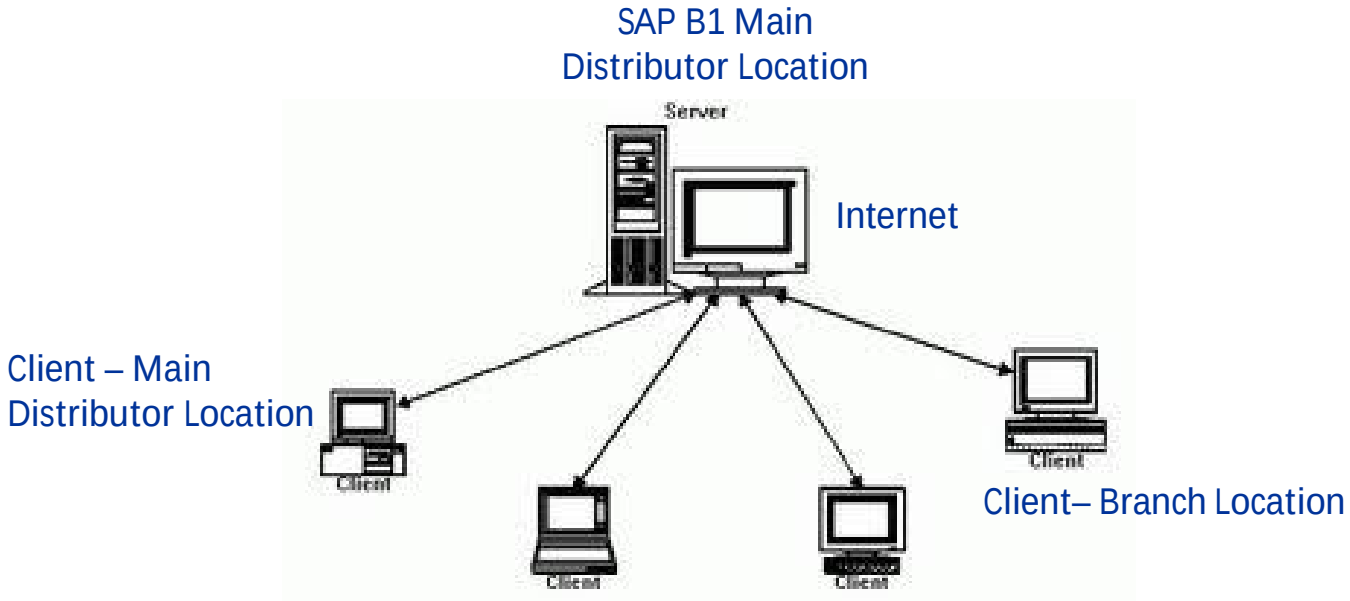
- Most of the Standard scenarios are build for operating with multiple company operation

- All the integration scenarios required for branch operation are not available as part Std Solution. This needs to be developed. (Refer to the next slide for details)

Interface requirements – Option (1) B12B1 Integration



Option 2 : Server Client Architecture



- Branch location will be considered as client
- Reliable connectivity required for performing the operations, in the branch locations
- All the Master data information are readily available in the branch location

Comparison of the two options

	Option 1	Option 2
Topics	Multiple B1 instances	Using Clients at Branch location
Development cost for building interfaces	High	Not applicable
Ongoing Maintenance effort	High	Low
Requirement of reliable internet connectivity	High	High
Master data consistency between Main and Branch Location	Medium	100 % availability in real time
Hardware upgrades requirement in Branch location	High	Low (Does not require additional server. Existing PCs can be used as client)
Implementation efforts (during go live)	High	Low

Our Recommendation is to go with Option 2.

OFFLINE SOLUTION

Promotions

Promotions Scenario Overview

Promotions and Incentives involved in the Unilever Business, partly legacy system automated and partly managed outside the system through manual processes are classified into the following exhaustive 8 forms, identified during the ISR process gathering phase:

- 1) On Invoice Discounts
- 2) Buy X Get Y
- 3) Business Volume
- 4) POS Materials
- 5) Displays and E- Voucher
- 6) Salesman Incentive
- 7) Sponsorship
- 8) Lucky Draw

Scylla Promotions Context

•System automated promotions in Scylla today are classified into these main forms of trade promotion rebates:

- •Standard % Discount: *Standard percentage discounts given in the sales invoice at SKU level or SKU set level.*
- •Gift Items (BXGYF) : *Free Unilever products bundled with the purchase of one or more other Unilever products with a pre-defined logic.*
- •Volume-based discounts : *Discounts granted for purchase of a particular volume of a product with multiple levels of setting possible, e.g. slab schemes.*
- •E-vouchers : *Outlets are selected for the corporate display and are rewarded by way of crediting as per the E-Voucher issued to them.*

•All these forms of promotions can be defined, set and tracked effectively in Scylla today with the particular period of promotion and related mechanism configurable, down to a budget allocation by channel, outlet type, outlet sub type and salesman level possible.

•Any other form of promotions such as lucky draws, sponsorship etc are manually operated and managed outside of the system today.

SAP B1 Promotions Context

•SAP B1 currently does not support promotions as a module and has zero out-of-the-box functionality to support any promotion or incentive related business processes.

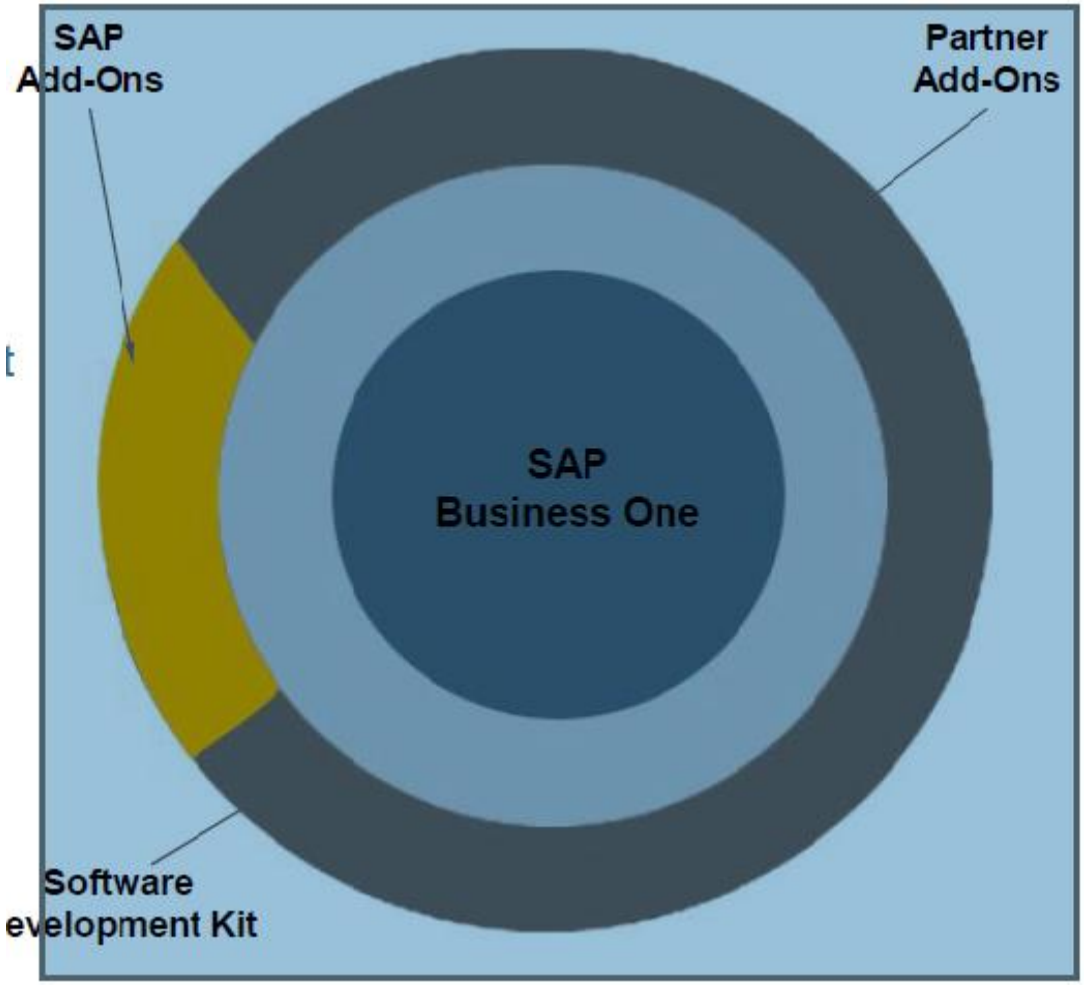
•SAP B1 CRM component also does not address the promotion functionality requirements

•Promotions being a business critical functionality will thus be custom developed in SAP B1 to meet Unilever's needs in this realm.

•Since the framework for promotions not being available in the SAP B1 product, the complete functionality of ISR is not possible to be build in SAP B1

•This material thus aims to set an understanding of the scope of promotion functionality that will be catered by B1 and the extent of development that will be undertaken in this respect.

Framework for Developments in SAP B1



- Source code not accessible
  - To ensure easy upgrade compatibility
  - To reduce the cost during the ongoing support phase
  - To ensure that standardization of the process
- SDK –Software Development kit will be used for Custom developments
- Customization capabilities cannot address every requirements

B1 Promotion Scope Consideration

System Promotion Scenarios	Complexity Level
On-Invoice Discounts	L1
Bonus Buys	L1
Bonus Buys with complex logic scenarios (*e.g. Buy X Get Y where X and Y is one or products joined by AND OR logics, basket of products)*	L2
Volume Discounts in system	L2
E-voucher (Part of customer loyalty programs)	L2
POS material	L1
Rent Payment	L1
Salesman Incentive	L2

Proposed Promotions Scope

Promotion Type	Scylla	SAP ISR	SAP B1
On Invoice Discounts	✓	✓	✓
Buy X Get Y	✓	✓	✓
Business Volume	✓	✓	✓
Displays and E- Voucher	✓	✓	x
POS Materials	x	✓	x
Salesman Incentive	x	x	x
Sponsorship	x	x	x
Lucky Draw	x	x	x

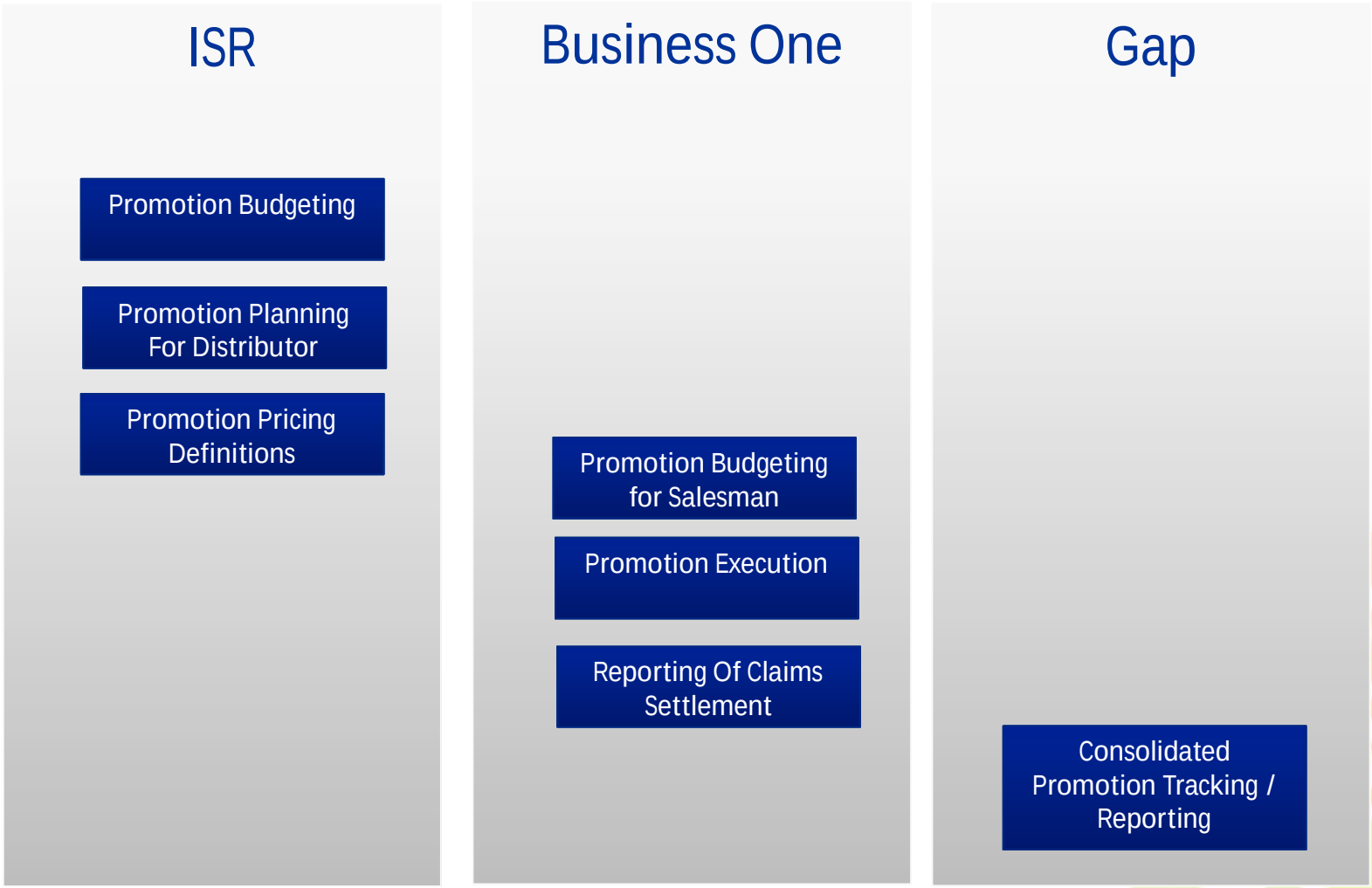
Scylla supported promotions will be the baseline of expectation for SAP B1 to meet in order to maintain the current level of capability and system functionality available today.

The % discounts, gift articles and volume discounts are frequent and common TPR types and are business critical customer marketing trade schemes which directly impact customers and our primary sales performance

The offline scope thus inclusive of % discounts, gift articles and volume discounts will allow for better budget control, gift articles management and will also facilitate analysis on the standard promotion type's effectiveness, but will not support any merchandising related activity such as POS materials and displays or rents.

Salesman incentives, sponsorship and lucky draws are operated outside of Scylla today and is also not supported by NGDMS ISR either, hence will remain out-of-scope for offline SAP B1 as well.

Starting points for promotion -SAP B1



Promotion Functionality Gaps

Functionality	ISR	SAP B1
Pricing components	Provides flexibility to have multiple pricing components (Attach : pricing components of ISR)	Only the base price and discount value are available as pricing components and a Tax component is assigned to Business Partner Master
Financial posting	Flexibility to post the GL entry for each of the step in pricing procedure	No of steps in pricing procedure is limited to only Price of the item and taxation.
Budgeting Control	Flexibility to have Internal order based budgeting	No budgeting functionality exists

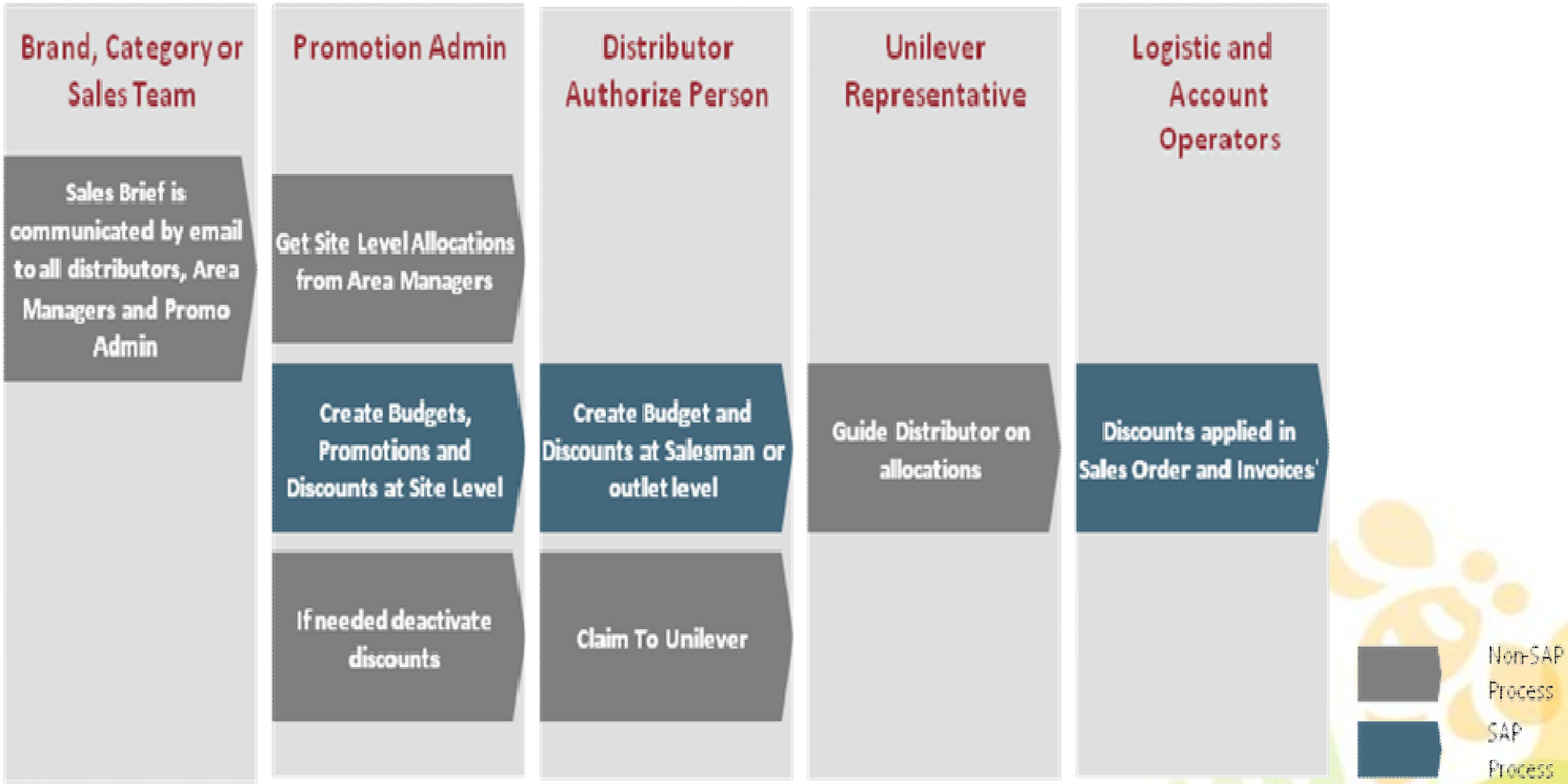
On Invoice Discounts

•On-invoice discounts are the most basic fundamental form of promotion and are basically discounts which are given to outlets in each sales invoice during the promotion period in a %-off on price or absolute value and are defined at the specific product (SKU), article hierarchy, specific outlets, customer hierarchy or at a distributor site level.

•Each Promotion has unique ID, defined period of execution and Budget associated with it. Budget is planned by Unilever central team and communicated by Email. These budgets and discounts are maintained at a distributor's level and are further allocated based on outlets or salesmen, and are automatically applied to invoices. The Promotion should be stopped when the Budget has exhausted or End Date is reached, whichever earlier.

•As this method of promotion is already being serviced by Scylla currently, and is a relatively simple, business critical form of promotion, there will be an enhancement in B1 to provide this functionality.

On Invoice Discounts



Promotion Process (On Invoice Discount)

ISR

Create Budget + Promotion in ISR

Interface

Replicate the Relevant Budget & Promotion Data to B1

B1

Allocation of Budget to Sales man and Outlet

Create a Sales Order selecting the appropriate Salesman

Validate the Promotion applicable based on the Salesman, Outlet & Item

Apply % discount at Item level.

Create a delivery document & Invoice document (Promotion info copied into the documents)

Budget & Promotion table gets updated with the consumed budget

On Invoice Discounts

1. Step 1: Area Sales Manager/Central User distributes budgets and sends new promotion to distributors ISR

• This step will be created in ISR. For both online and offline distributors , the budgets needs to be created in ISR

• Even for the offline distributors, the site configuration needs to be maintained in SAP ISR

• There will be a mapping table to identify off line distributors. The promotion message will be triggered from ISR to B1 .

2. Step 2 :

•The allocation of budget to Salesman will need to be done manually in SAP B1

• The users will not be allowed to change the Site Budget value, but will be allowed to make the site budget allocation to the Salesman. Budget Value reset is done by central team for distributors and the message is then passed from ISR to Business One via interfaces. Central Team will not have visibility of the actual budget consumption of distributor.

•Based on the discounts applicable, the value will be updated in discount value at line level in SAP B1, during the sales order creation

On Invoice Discounts

•Checks will be build during order creation to check the promotion type/ salesman combination, for the allocated budgeted value.

3 Step 3: Only Unilever user can close promotions at header or detail level

•The Central Team will have authorization to close a promotion or deactivate it. The promotion scheme will be active for all distributors for the period of promotion run. There is no access for distributors to deactivate the Promotions.

On-Invoice Discounts: Assumptions

• The new promotions needs to be defined for distributors in ISR. The distributor will not be allowed for creating Promotion manually in the SAP B1

• The promotion will be activated in SAP B1 when Budget is allocated to Salesman and is not done manually by distributor.

• The Promotion types and all possible combinations of the promotion schemes will be maintained in SAP B1, the input for which is from ISR.

• For the distributors in Scylla, the area team will need to manage with the current way of working. No interfaces planned between SAP ISR and Scylla

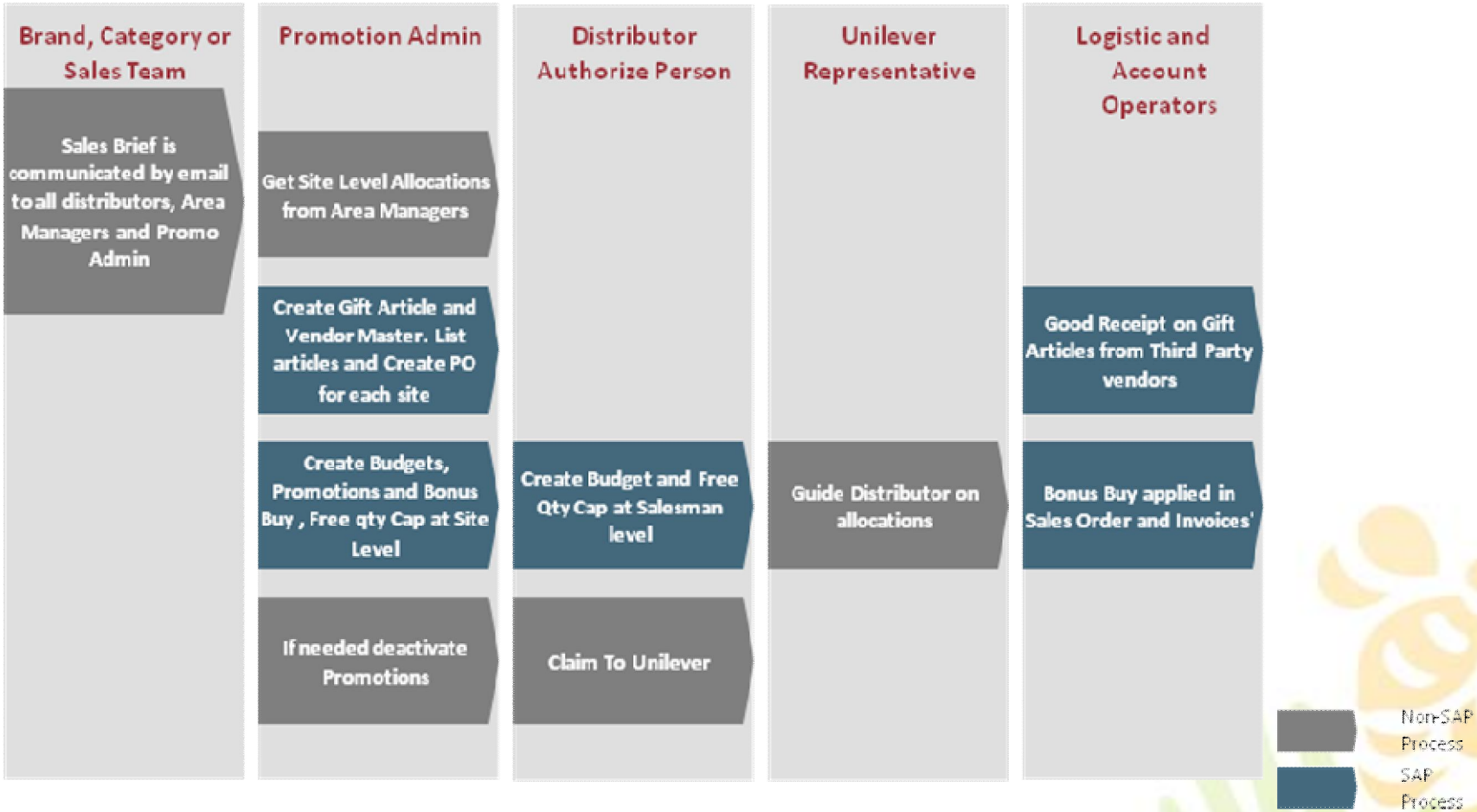
Buy X Get Y Free

•This is also a kind of on-Invoice discount, where X and Y are one or more products (combined by AND and/or OR logical operators) of certain quantities, where Y may be Unilever manufactured or Non-Unilever products and will always be delivered free upon purchase of X.

•Once again, budgets and free product quantities are maintained at site level and are further capped at salesman level, and will be stopped in case the limit of free good quantity is reached.

•The gift article and supplier/vendor masters can of course, be created in B1, and a PO can also be raised for the site. Being a commonly used form of business critical promotion, this will also be developed in B1.

Buy X Get Y Free



Promotion Process (Buy X & Get Y)

ISR

Create Budget + Promotion in ISR

Interface

Replicate the Relevant Budget & Promotion Data to B1

B1

Allocation of Budget to Sales man and Outlet

Create a Sales Order selecting the appropriate Salesman

Validate the Promotion applicable based on the Salesman, Outlet & Item

Lookup the Budget & Promotions Table for Free Items & update the Sales Order Lines

Create a delivery document & Invoice document

Budget & Promotion table gets updated with Budget Utilized & Available

Buy X Get Y

1. Step 1 : Promotions & Budgets for the Promotions as well as the Conditions for Buy X and Get Y Free are created in ISR
2. Step 2 : Through Interfaces the Promotion Conditions are imported in SAP B1 Promotions Tables
3. Step 3 : The allocation of Budgets & Free Quantity to be capped at sales man level is done in Business One
4. Step 4 : While creating Sales Order in Business One for a selected Outlet, Salesman and Promotion ID combination a lookup is done in the Promotions Table to apply the possible Percentage discount or Add new line items as the case is depending on the Promotion type. A validation will be built to check for budget over run's.
5. Step 5 : For Free Items, a pop up will be provided which will display the available quantity in warehouse. The items can then be picked into Sales Order manually. The free goods line in Sales Order will carry 100% discount
6. Step 6 : Delivery Document is created based on the Sales Order along with the Promotion Items
7. Step 7 : Invoice is generated based on the delivery document and all information related to Promotions is copied. The consumed budget and the balance available budget will get calculated in the Promotions & Budget table.

Buy X Get Y

8 Step 8 : Central user can close promotion at header or detail level.

•It is proposed that all the promotions will be active through the validity period of the promotion. If the Central Team decides to close the promotion before the end of validity period then the authorization lies with central team only. Distributor cannot inactivate any promotions at site level.

Buy X Get Y: Assumptions

•Only one promotion running for each outlet at SKU level.

• If More than one promotion exists for a SKU, system will propose list of applicable promotions and user can select the relevant promotion from the list.

•The GL Accounts posting will not happen for Promotions having Discounts.

• All the free goods determination is done during creation of Sales Order

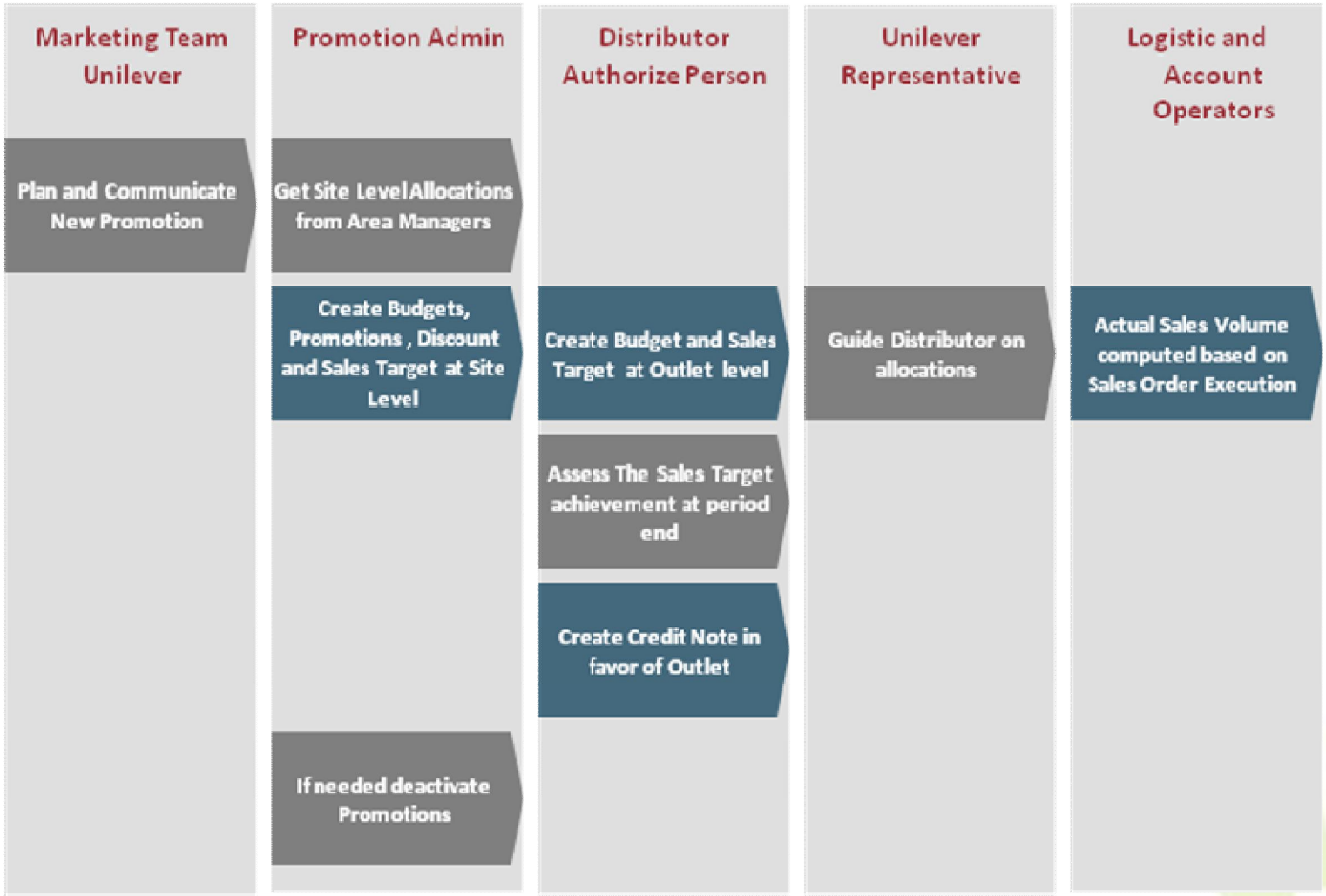
• All possible combination of Promotions will be created in ISR and will be exported to Business One via interfaces.

Volume Discounts

•This is an off invoice discount where the discount can be an amount or % off on achieving a particular sales target for an SKU, category, brand, etc in a given period of time. The participating outlets, budgets and sales targets are set by the distributor.

•Volume discounts, also follow similar mechanisms were the budgets and sales targets are created at site level, allocated to outlet level, and are assessed manually to see if the target has been achieved to appropriately credit the customer.

Volume Discounts



Promotion Process (Volume Discount)

ISR

Create Budget + Promotion in ISR

Interface

Replicate the Relevant Budget & Promotion Data to B1

B1

- Allocation of Budget & Sales Target at outlet level
- Create a Sales Order for the outlet
- Create a delivery document
- Create Invoice for the Deliveries executed for Sales Orders.
- Manually assess if the target is achieved for the outlet
- If the Promotion volumes are achieved at period end, then credit note is created to Outlet
- Update the Promotions & Budget Table with available balance

Volume Discounts

1. Step 1 : Promotions & Budgets for the Promotions as well as the Conditions for Volume Discounts are created in ISR
2. Step 2 : Through Interfaces the Promotion Conditions are imported in SAP B1 Promotions Tables
3. Step 3 : The allocation of Budgets & Sales Target at Outlet Level is done in Business One
4. Step 4 : Create Sales Order in SAP Business One for the outlet participating in promotions
5. Step 5 : Create Delivery to the customer based on Sales Order
6. Step 6 : Create Invoice for the Deliveries executed.
7. Step 7 : Manually the User will check if the target of volume sales is achieved by the outlet
8. Step 8 : If target is achieved by the outlet at the period end then a credit note is created in Business One for the Outlet
9. Step 9 : Update the Promotions and Budget Table with the consumed budget.

Volume Discounts: Assumption

- The new promotions needs to be defined for distributors in ISR. The distributor will not be allowed for creating Promotion manually in the SAP B1

- Budget & Sales Target to Outlet for volume discounts is maintained in B1 Manually

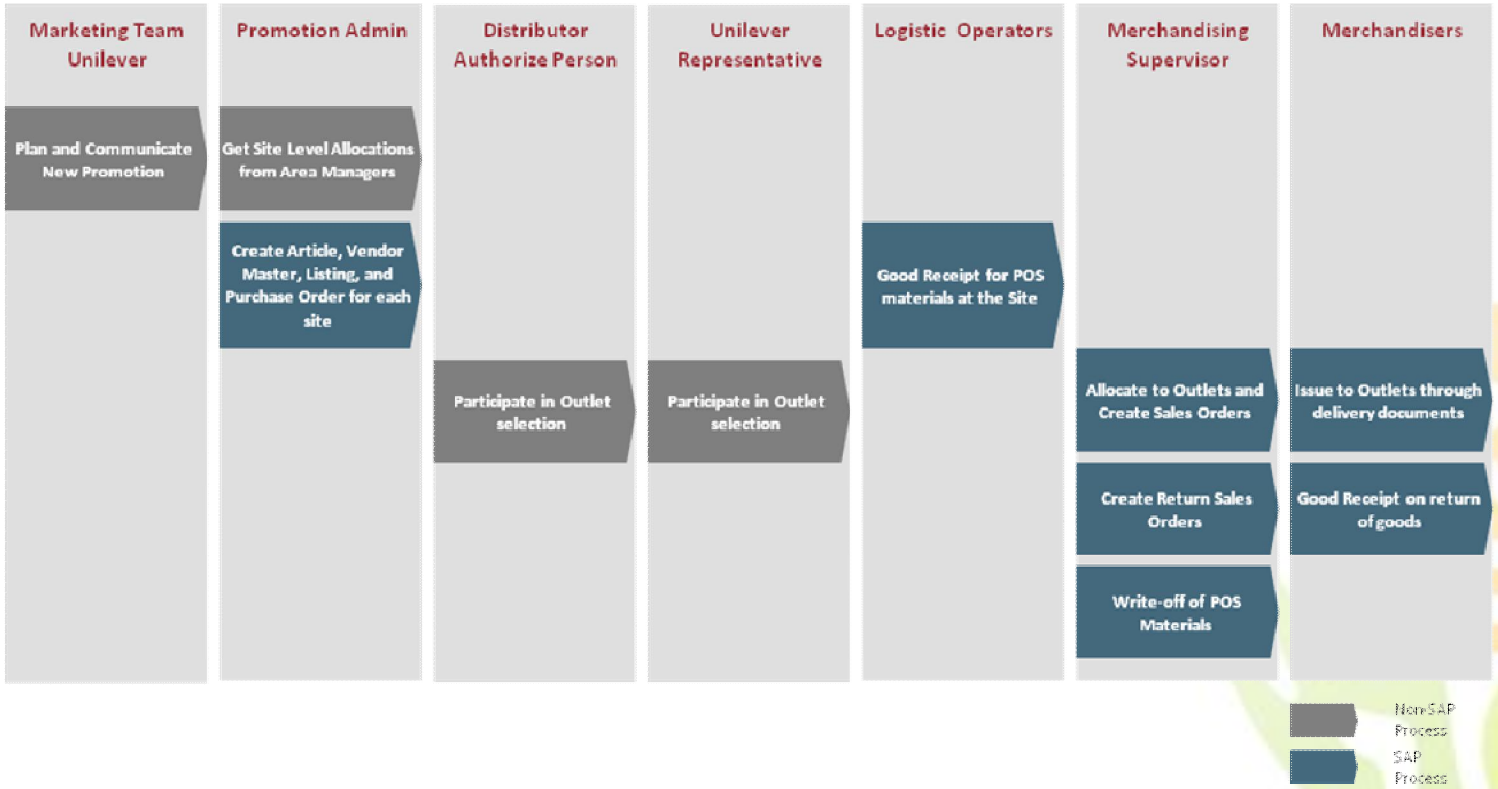
- The credit note is created in B1 by the distributor manually

- There is no check on the sales volume when creating invoices.

POS Materials

•Similar to Scylla today, the offline scenario will not support POS material management and related activities or support merchandisers or merchandiser supervisors as users.

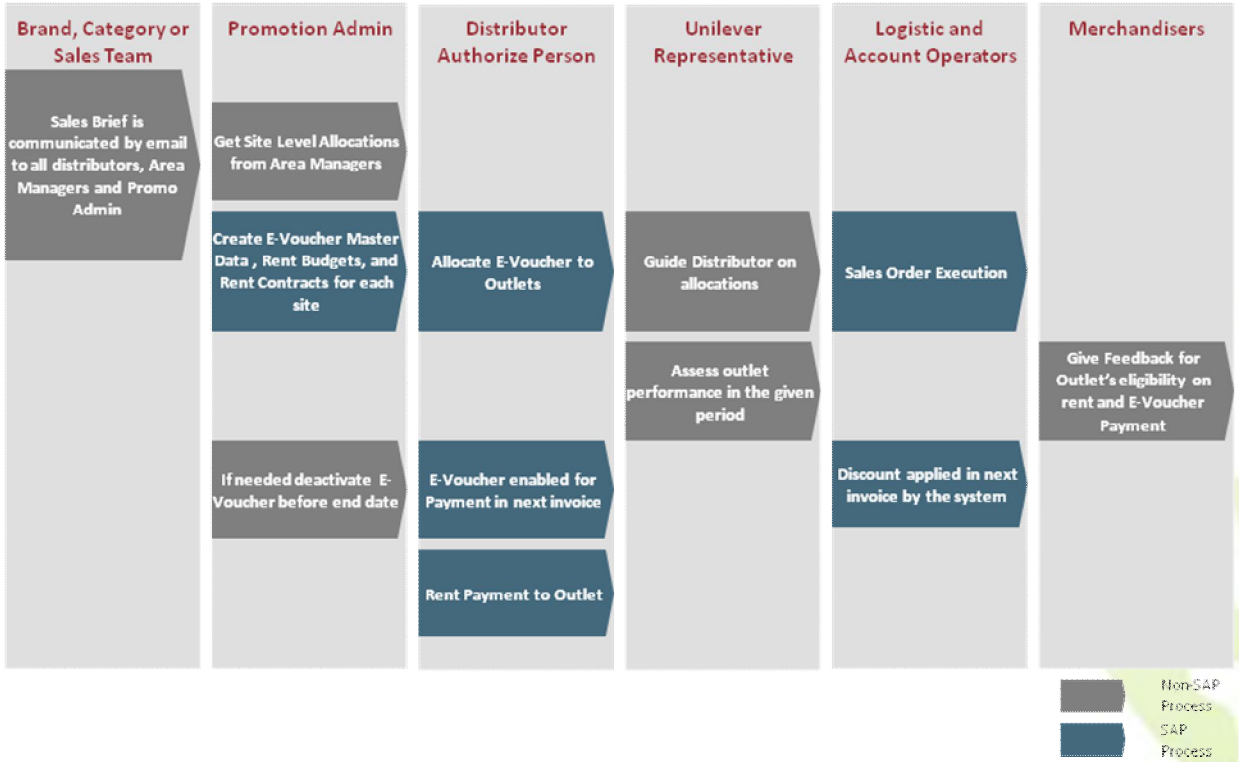
•Continuing the currently utilised business processes, merchandising activities will thus operate outside of the offline system.



Display and E- Voucher

•E-vouchers , which are actually a part of customer loyalty programs , in particular are a more complex form of promotions involving rent contracts and payment to outlets, several approval procedures as well as assessment result printing on the invoices, which will definitely involve a more significant effort in development and thus will remain to operate outside of the offline system.

•The alternate solution to manage this would be to keep the entire process out of the system and to manually issue a credit note when payment on Voucher is due.



NGDMS Final Infra Architecture and BOM

Final Requirement Scope

Heads Considered for Services	Requirements	Production	DR	Dev	QA /Training	Pre Prod
Users						
Named User	850	850	425	100	200	850
Concurrent	425	425	215	50	100	425
Location	Immaterial	Immaterial	Immaterial	Immaterial	Immaterial	Immaterial
SAP Components						
IS Retail	✓	✓	✓	✓	✓	✓
BI						
PI	✓	✓	✓	✓		✓
EP	✓	✓	✓	✓	✓	✓
TREX						
Solman	✓	✓	✓	✓		
CRM						
LDAP						
IDES						
PoC						
SAP Router	✓	✓	✓			

✓ – implies it is included or considered as part of the final solution

Final Requirement Scope Contd…

Heads Considered for Services	Requirements	Production	DR	Dev	QA /Training	Pre Prod
Network Infrastructure						
Firewall	✓	✓	✓			
NIDS / DDOS						
Backup						
OS Backup	✓	✓	✓	✓	✓	✓
DB Backup	✓	✓	✓	✓	✓	✓
Snapshot Backup	✓	✓	✓			
Data Protection						
Snapshots						
Replications	✓	✓	✓			
High Avail (50%)						
SAP Application	✓	✓				
DB	✓	✓				
Scalability						
SAP Application	✓	✓	✓			✓
DB	✓	✓	✓			✓
Archival*						
Storage (Infra)	✓	✓	✓	✓	✓	✓

✓– implies it is included or considered as part of the final solution

*Archival not considered for 2 years

Assumptions/Considerations

- System Landscape
  - 4 Tier landscape for IS Retail and EP (Development -> QAS -> Pre-Production->Production)
  - 3 Tier landscape for PI (Development -> Pre-Production->Production)
  - 2 Tier Landscape for Solution Manager (Development -> Production)
- Server Sizing
  - Sizing based on Inputs received from Unilever
  - Concurrent users - 50 % of Named users 850
  - Final Sizing - reviewed by SAP.
  - Capacity for Development Systems – 50 concurrent users
  - Capacity for QAS– 100 concurrent users
  - Capacity for Pre-Production Systems – Equal to Production systems without HA
  - Capacity for DR systems – 50 % of Production systems without HA Options for App servers
- CPU Measurement
  - 1000 SAPS = 1 Core CPU (Intel X86 – 64 Xeon Proc)

Sizing Assumptions/Considerations contd…

- Storage Requirements
  - For IS-Retail Provisioning of storage has been done for 1st Quarter requirement only.
  - Storage Capacity for Pre-Production systems
    - 1 TB is planned now
    - On System-Refresh perspective, equal storage of production system to be planned later.
  - Legacy Data Migration for IS -Retail
    - 500 GB is planned now
- High Availability Configuration
  - Fail-over for SAP (A)SCS (formerly Center Instance) and database instances considered for production and DR environments. In event of any Database server node failure , there would be decrease in system performance for IS-Retail, PI and Enterprise Portal Database Servers.
  - VMware High Availability (HA) is considered for Application Servers in Production Landscape. In event of any of the VMware host failure, there would be 10-15% decrease in system performance for IS-Retail, PI and Enterprise Portal Application Servers.
  - High Availability Solution (HA) is not considered for Non-Production Systems (DEV, QAS, Pre-Production and DR)

Sizing Assumptions/Considerations contd…

- DR
  - Data replication to DR site will be based on automated scripts via Oracle Data Guard.
  - Failover and Failback will be Manual
- Scalability
  - SAP Application Server - Load balancing and scalable architecture based on scale-out method (in a way of adding the new server nodes to an existing solution architecture).
  - Scalability for Database
    - Oracle – Oracle RAC (Unilever to provide License)
- Protection against Data corruption
  - Flashback Logging at DR site will result in increased Storage
- Backup Infrastructure
  - SAP hot backup agent (will be provided by HSP)
- Data Archiving
  - Archiving solution and Infrastructure has not been considered at this stage.

Assumptions/Considerations for Reduced Landscape

- Server Sizing
  - Measurements done for 200 distributors
  - Two SAP sizing templates that were prepared for Indonesia is used for measurements
    - Divide by 2 formula is applied to revise only the appropriate input parameters
    - # Purchase organization is changed to three from one
    - Key sizing parameter : Number of HHT sales order documents per day is calculated as per the earlier assumptions (60 % of sales order will be via HHT)
  - Sizing impact to IS-Retail system due to offline solution based on SAP B1 is not considered at this point in time. However, additional workload due to B1 can be managed by the current sizing as it is done for 200 distributors as opposed to 50 distributors.
  - PI Server Sizing
    - Sizing done for 400 distributors remain unchanged
    - Sizing impact due to offline SAP B1 solution is not considered
    - Sizing review needs to be done post solution architecture finalization

Sizing Recommendations

For all environments

Intel-Linux-Oracle

Landscape – Production – 2011 Contd..

Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server	Storage Requirement per server	Physical	Cluster Support
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80	1	Load Balancing Mode
SAP PI 7.1	Application Servers	3000	1500	1	4	12	80		Load Balancing Mode
SAP Solman 7.X	Application Server	5000	2500	1	6	18	80		NA
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80	1	Load Balancing Mode
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80		Load Balancing Mode
SAP PI 7.1	Application Servers	3000	1500	1	4	12	80		Load Balancing Mode

Landscape – Production – 2011

Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server	Storage Per server in GB	Physical	Cluster Support
SAP EP(7.X (MIM Portal)	Application Servers	3500	1750	NA	4	12	80	1	Load Balancing Mode
SAP EP(7.X (MIM Portal)	Application Servers	3500	1750	NA	4	12	80	1	Load Balancing Mode
SAP Router	Router - OSS Connection	2000	1000	NA	2	4	50	1	NA
SAP ECC 6.0 (IS Retail) + SAP EP	Database + SCS	4000	2000	NA	4	12	2700 *	2	Oracle RAC
SAP Solman + SAP PI 7.1	Database + SCS	1500	750	NA	2	8	700	2	Oracle RAC
Total		52000		6			4090 *	9	

* Considered only for 1st Quarter. Increase in Storage will have cost impact.

Landscape – Pre-Production - 2011

Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server	Storage per server GB	Physical	Cluster Support
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80	1	Load Balancing Mode
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80		Load Balancing Mode
SAP ECC 6.0 (IS Retail)	Application Servers	7000	3500	1	8	24	80	1	Load Balancing Mode
SAP PI 7.1	Application Servers	6000	3000	1	7	24	80		NA
SAP EP (7.X (MIM Portal)	Application Servers	7000	3500	NA	8	24	80	1	NA
SAP ECC +EP +PI	Database + SCS	10000	5000	NA	10	40	1480	1	NA
Total		44000		4			1880	4	

Landscape – Development and QAS- 2011 Contd..

Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server	Storage per server in GB	Physical	Cluster Support
SAP ECC 6.0 (IS Retail) (DEV)	Application Servers	5000	2500	1	6	20	80	1	NA
SAP ECC 6.0 (IS Retail) (QAS)	Application Servers	5000	2500	1	6	20	80		NA
SAP PI 7.1	Application Servers	3000	1500	1	4	16	80		NA
SAP Solman	Application Servers	2000	1000	1	3	12	80		NA
SAP EP (7.X (MIM Portal) (DEV)	Application Servers	3000	1500	NA	3	12	80	1	NA
SAP EP (7.X (MIM Portal) (QAS)	Application Servers	4000	2000	NA	4	16	80	1	NA

Landscape – Development and QAS- 2011

Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server	Storage per server in GB	Physical	Cluster Support
SAP ECC	Database + SCS	1000	500	1	2	8	320	1	NA
SAP EP	Database + SCS	1000	500	1	2	8	80		NA
SAP PI	Database + SCS	1000	500	1	2	8	220		NA
SAP Solman	Database + SCS	1000	500	1	2	8	120		NA
SAP ECC (QAS)	Database + SCS	1000	500	1	2	8	320		NA
SAP EP (QAS)	Database + SCS	1000	500	1	2	8	80		NA
Total		28000		10			1620	4	

Landscape – DR - 2011

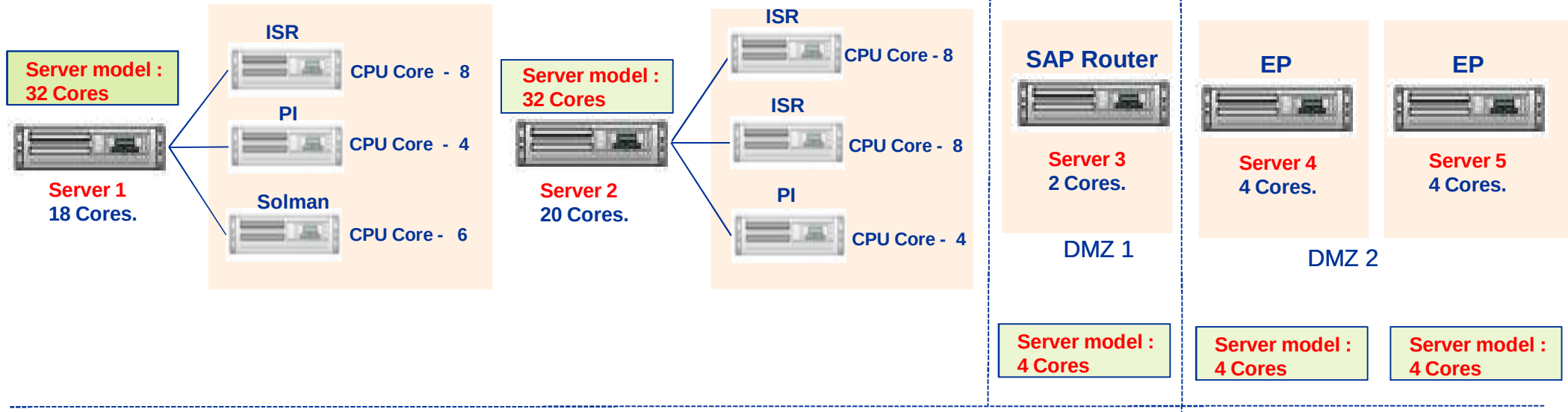
Application	Server Type	SAPS	No of IOPS	Number of VM	CPU per Server	Memory per server GB	Storage per server in GB	Physical	Cluster Support
SAP ECC 6.0 (IS Retail)	Application Servers	5000	2500	1	6	16	80	1	Load Balancing Mode
SAP Solman 7.X	Application Server	3000	1500	1	4	12	80		NA
SAP ECC 6.0 (IS Retail)	Application Servers	5000	2500	1	6	16	80	1	NA
SAP PI 7.1	Application Servers	3000	1500	1	4	14	80		NA
SAP Router	Router - OSS Connection	2000	1000	NA	2	4	50	1	NA
SAP EP (7.X (MIM Portal)	Application Servers	3500	1750	NA	4	12	80	1	NA
SAP ECC 6.0 (IS Retail)+SAP EP	Database + SCS	2000	1000	NA	2	8	2700 *	2	Oracle RAC
SAP Solman + SAP PI 7.1	Database + SCS	1500	750	NA	2	8	700	2	Oracle RAC
Total		28500		4			3850 *	8	

* Considered only for 1st Quarter. Increase in Storage will have cost impact.

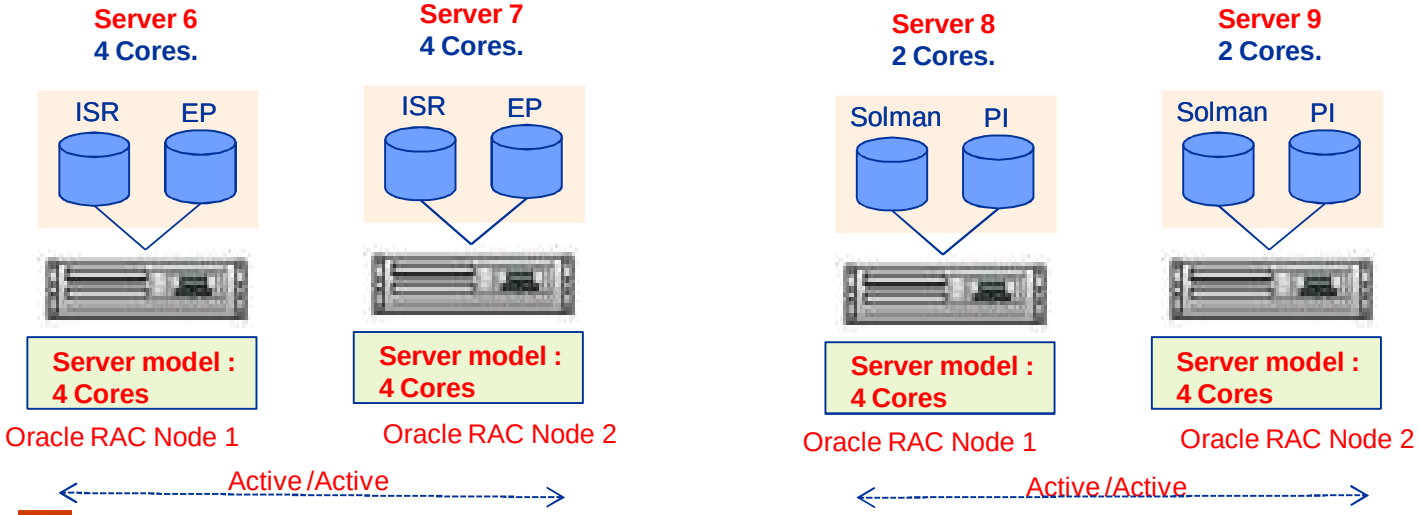
Server Deployment Architecture

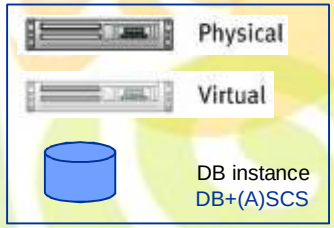
Production Landscape (Private Cloud)

Application Layer



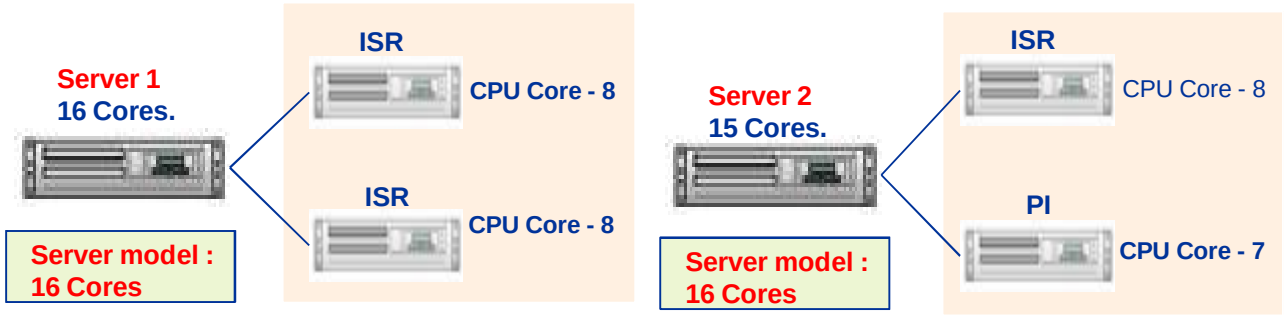
Database Layer (DB+(A)SCS)

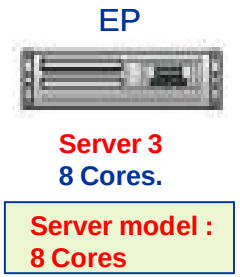




Pre - Production Landscape (Private Cloud)

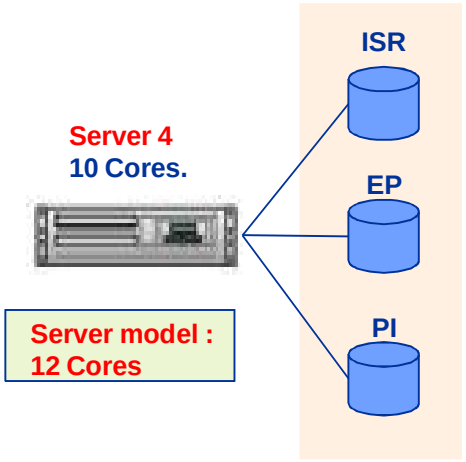
Application Layer

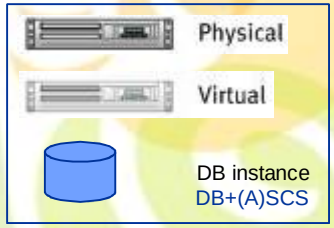




DMZ 2

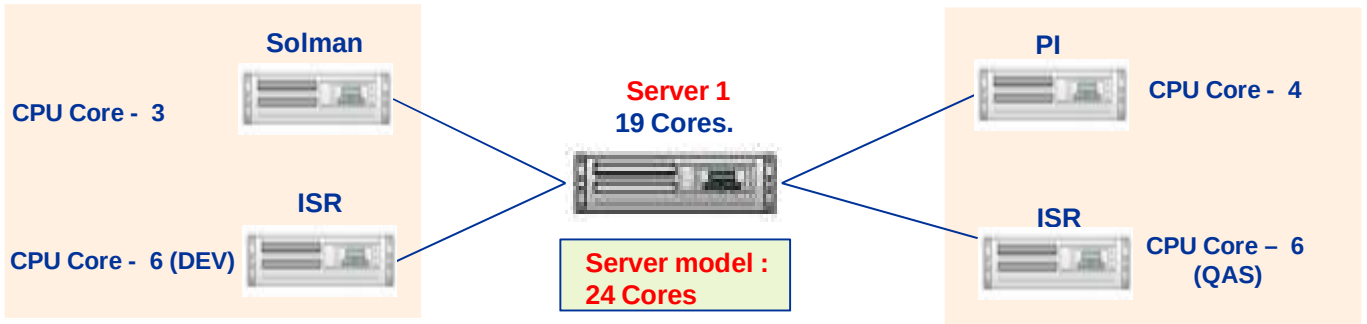
Database Layer (DB+(A)SCS)

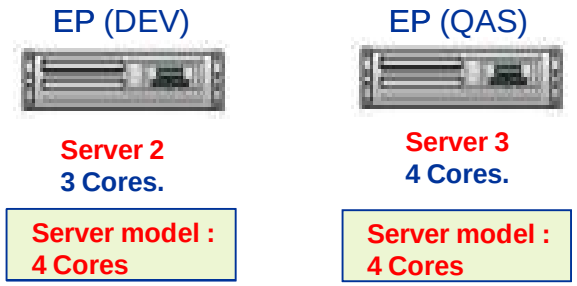




Development & QAS Landscape (Private Cloud)

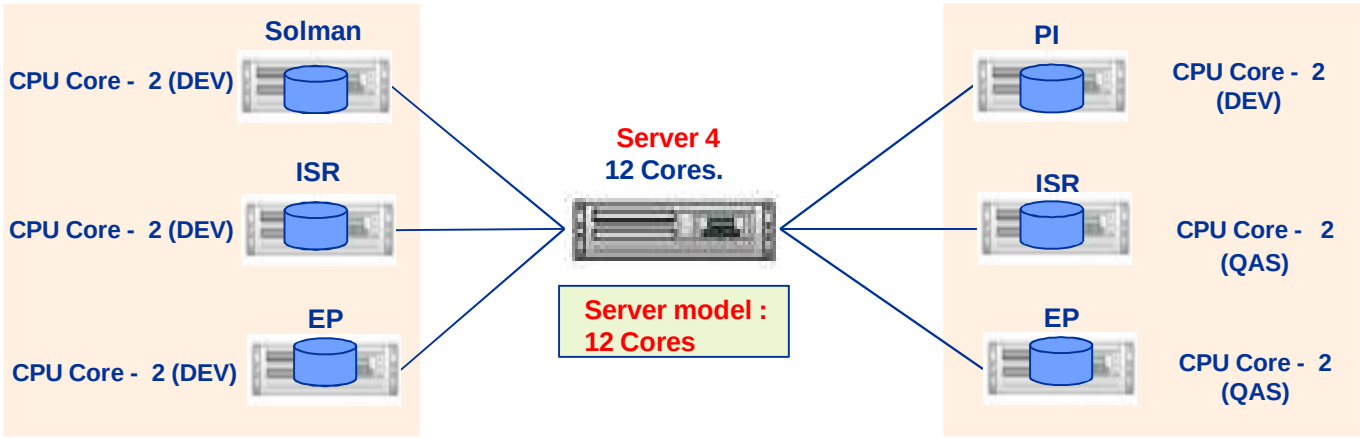
Application Layer

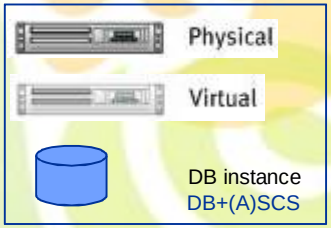




DMZ 1

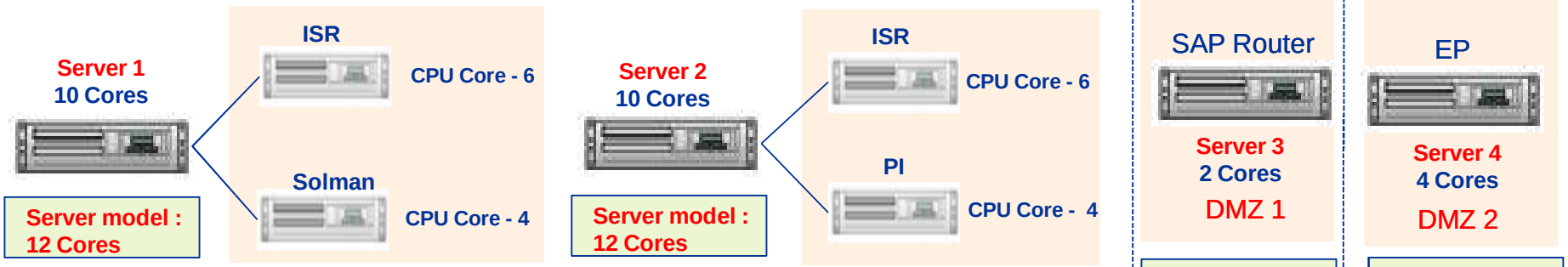
Database Layer (DB+(A)SCS)



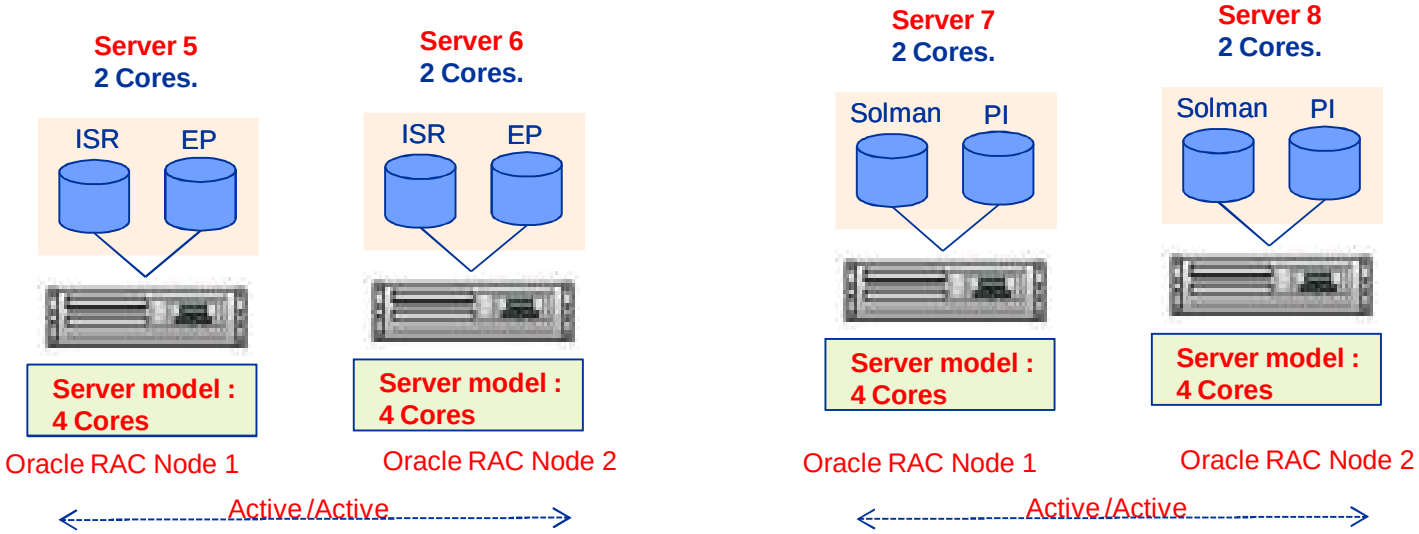


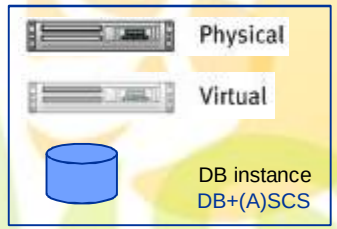
DR Landscape (Private Cloud)

Application Layer



Database Layer (DB+(A)SCS)





Details on Landscape

Areas	Details	Remarks
System / Server	Intel Servers - X86 -64bit -Xeon	Physical + Virtualized (VM) over dedicated servers
Edge Security / Network	Cisco ASA NIDS /Cisco Gear	Shared
Firewall	Cisco ASA	Dedicated with HA bundle for Primary and standalone for DR
Reverse Proxy	F5	Dedicated with HA bundle for Primary and standalone for DR
Operating System	Red Hat Linux Ent v5	
Virtualized platform	VMware vSphere	
Data Base	Oracle 11.2g enterprise edition	
Internet Bandwidth	Dedicated 10 MB (Scalable)	Pay per use model
Antivirus		As per HSP offering
Storage	As per BoQ. (to include all sub components)	Scalable to ~ 200 TB Pay per use model
Tape Backup Library	Symantec NetBackup./ Commvault To support SAP integration.	Backup infra to be provisioned at DR on demand
Oracle License	Database, RAC , Data Guard as per BoQ	
Snapshot backup	Storage for online backup for large DB (IS Retail)	

Bill of Material

Landscape Spread (Incl. HA + Scalability)

Landscape	2nd Aug 2011			
	Virtual Machines	Dedicated Physical	ESX Hosts	Total Physical = Dedicated Physical + ESX hosts
Production	6	7	2	9
Pre-production	4	2	2	4
Development & QAS	10	2	2	4
DR	4	6	2	8
Total	24	17	8	25

- The Servers considered can scale up for Indonesia and Thailand
- All CPU cores would be multiples of 2 (Dual), 4 (Quad), 6 (Hex) or 8 (Octal) and hence for some of the physical severs , we will have additional capacity and hence the impact on cost.

Landscape Spread (Physical Server Breakup)

Landscape		Physical Servers								
		2 core	4 core	6 core	8 core	12 core	16 core	24 Core	32 Core	Total Physical
Production	APP		3						2	9
	DB		4							
Pre-production	APP				1		2			4
	DB					1				
Development & QAS	APP		2					1		4
	DB					1				
DR	APP		2			2				8
	DB		4							
Total		0	15		1	4	2	1	2	25

DB Server details for Oracle License

Environment	DB Servers	Cores Required	Server Cores Available	Oracle Enterprise License	RAC (with ASM/ACFS)	Data Guard (Active/Passive)
Production	1	4	4	✓	✓	✓
	1	4	4	✓	✓	✓
	1	2	4	✓	✓	✓
	1	2	4	✓	✓	✓
Pre-Production	1	10	12	✓		
DEV + Quality	1	12	12	✓		
DR	1	2	4	✓	✓	✓
	1	2	4	✓	✓	✓
	1	2	4	✓	✓	✓
	1	2	4	✓	✓	✓

Road Map

Year	H1 2012	H2 2012	H1 2013	H2 2013	2014
Number of Users	850	1900	4200	8500	16000
Concurrent user	425	1000	2100	4250	8000
# of Distributor	200	500	1100	2250	4200

- CRM Server
  - CRM server would be added to the landscape at a later point in time
  - BI Server would be added to landscape along with CRM server if solution architecture demands
  - Detailed server sizing needs to be done prior to deployment
- Business One Server
  - Would be added to the landscape based on architecture demand for the offline solution

Expansion Plan

The current Production landscape for 200 distributors, translates in to 27,000 SAPS sizing

HSPs will be requested to quote for the PROD landscape expansion for every 30000 SAPS & 60000 SAPS sizing.

The commercials will be negotiated for the future size expansion as well

Deployment Schedule

High Level Deployment schedule	Task Owner	Week Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		Dates	1-Aug	8-Aug	15-Aug	22-Aug	29-Aug	5-Sep	12-Sep	19-Sep	26-Sep	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct	7-Nov	14-Nov	21-Nov	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec	2-Jan
Activities																									
Requirement Finalization and Sign-off	MT, UL																								
HSP Selection	MT, UL																								
Contract and Legal Finalization	MT, HSP																								
Software Contracts	UL																								
Infra Readiness at HSP	MT, HSP																								
Connectivity between HSP, MindTree and UL	MT, HSP, UL																								
DEV infra Migration	MT																								
QAS and Pre-Prod Setup and readiness	MT																								
Production environment readiness	MT																								
DR environment readiness	MT																								
Infra Handover																									

Inter-dependent work package on other stake holders for MindTree

Independent work package for MindTree

The Core Implementation project will need DEV-QA-Pre PROD to be available from mid Oct'11 onward. This availability will not be possible with the given above schedule of Private Cloud environment.

Hence the DEV-QA-Pre PROD will be provided in the current landscape of Public Cloud. The current contract of Public Cloud is available till mid Sept'11. This contract will be extended till end of Nov'11 (additional 2.5 months) and for the increased capacity for DEV-QA-Pre PROD

Thank you