



- Welcome
- Paul Aschmann
  - IS Manager at AKsys USA, Inc.

# Agenda

1. Computing History
2. SAP 1.0
3. SAP 2.0
4. Understanding SOA
5. Examples
6. Future

Introduction

Overview

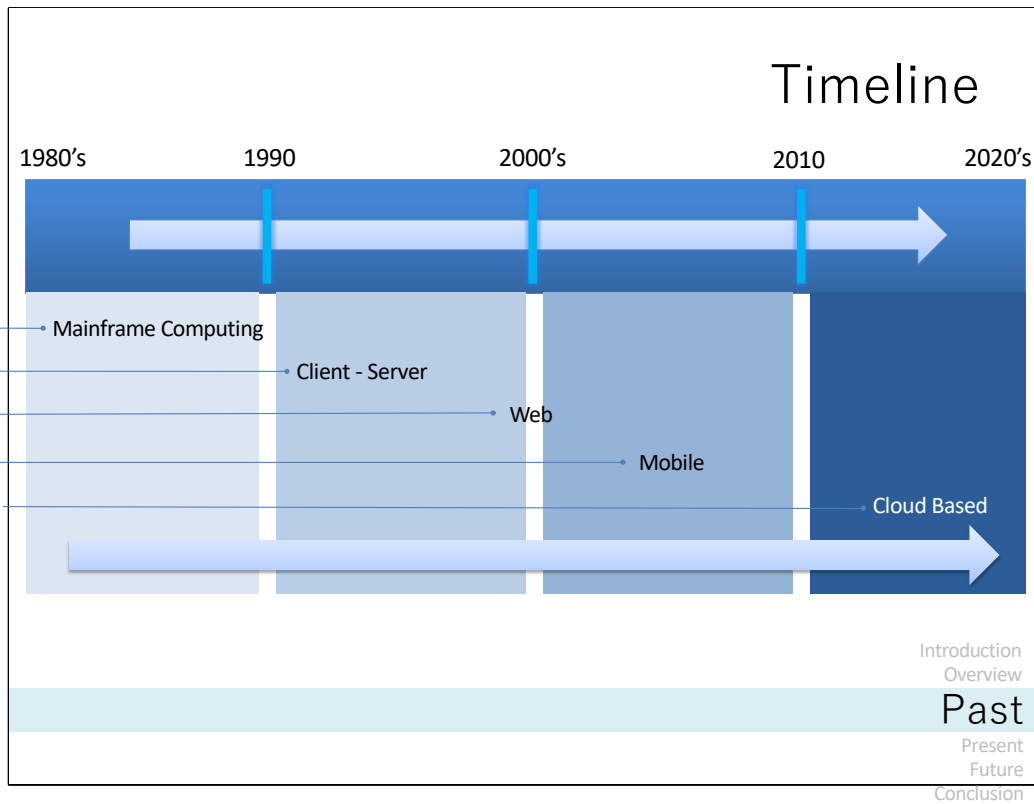
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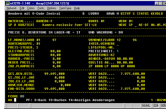
- Macro Advancements in Infrastructure, architecture and technology of BIS and SAP
- Goals
  - General overview of computing history
  - What SOA really is
  - A couple examples of SOA
  - Future of BIS



Seeing the evolution of computing throughout the years

- Infrastructure Barriers broken driven technology innovation
- evolution and power of networking not computing
- Data flow and open communications have been the foundation for software and applications
- SAP followed suite

# SAP 1.0 – Early days



1988

R/2



1993

R/3



1996

mySAP.com

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## 1.0 Era of SAP

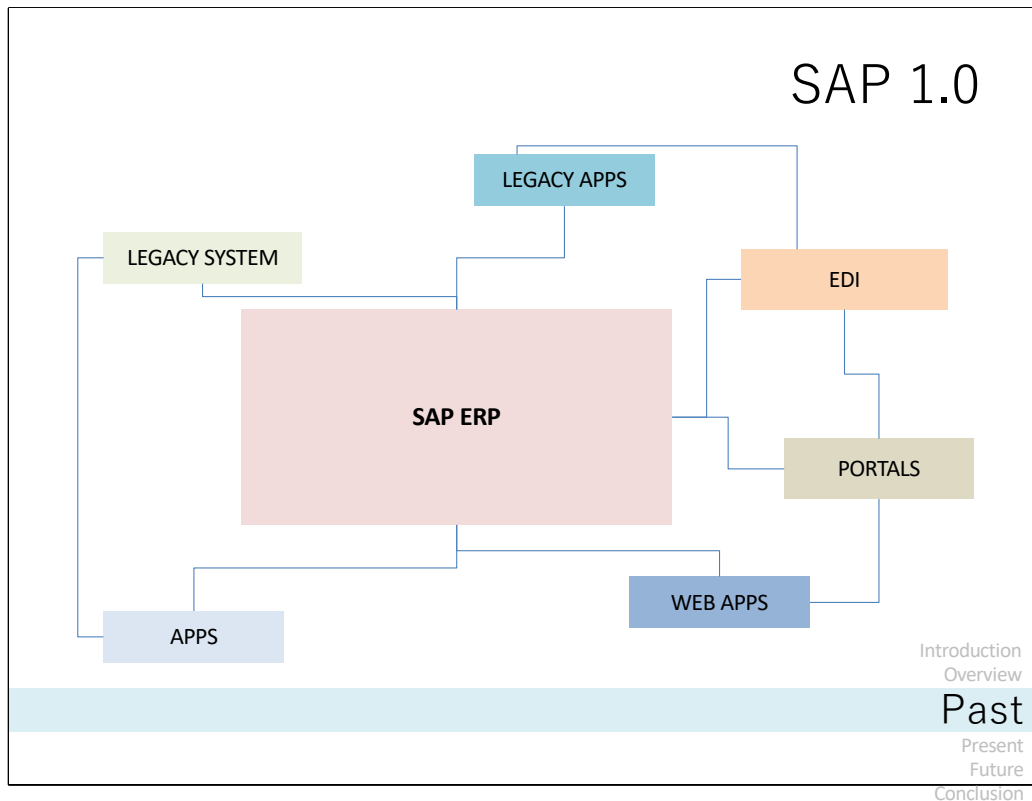
Similar to the internet similar traits

Static

Data sharing between applications and systems

Not very collaborative

Not very innovative because of barriers in networking infrastructure



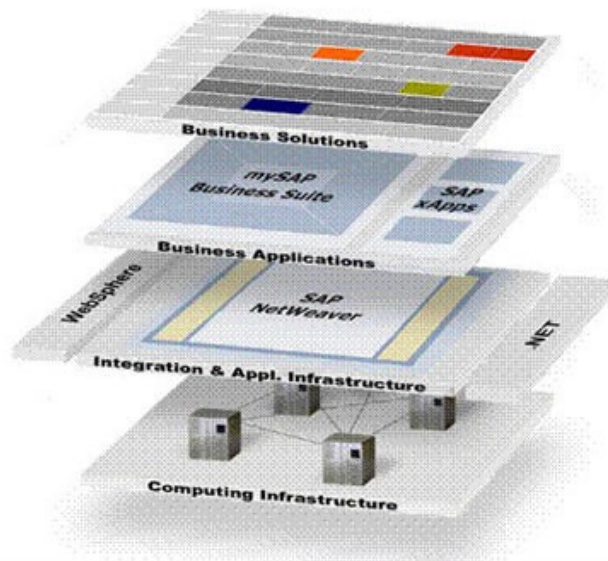
### Late in 1.0 Era

- System landscape evolve to ERP centric model
- Master data in a single source
- Multiple information sources started to grow with mergers, legacy applications, web apps, and supporting software
- Growing out - Users wanted more relevant, real-time and useful systems and data
- Increasing difficult to provide from a ERP centric system

### So SAP was taking note

landscape was being increasingly complex, expensive and were slowly digging ourselves into a hole.

## SAP 2.0 – The beginning



In 2004 SAP introduced ECC which ushered in the SAP 2.0 era

Most important innovation was **the adoption of a infrastructure layer** Netweaver

### **SAP's goal**

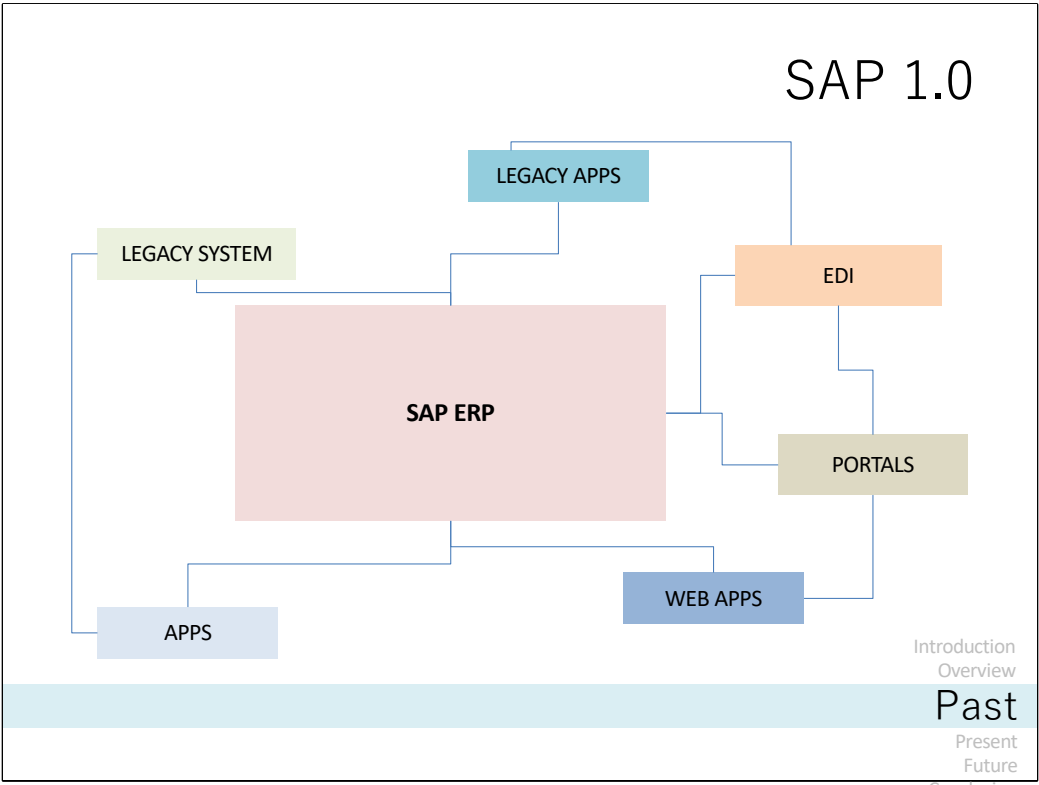
Move away from a ERP centric model to a service oriented model

### **Netweaver allowed**

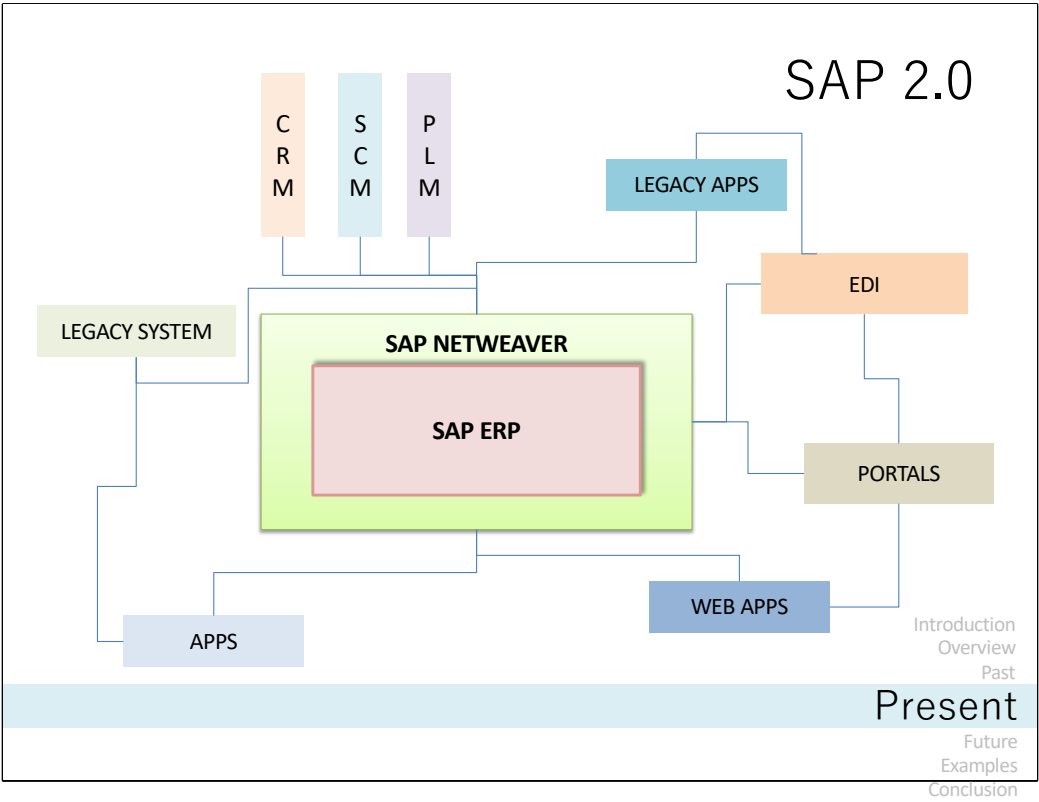
SAP to develop tightly integrated applications like CRM, SEM, MDM, non-sap and so on  
open channel to consume the ERP's services, structures and data

**This model or infrastructure layer is commonly referred to as a SOA**

This ECC upgrade modified our SAP landscape from this ... to this

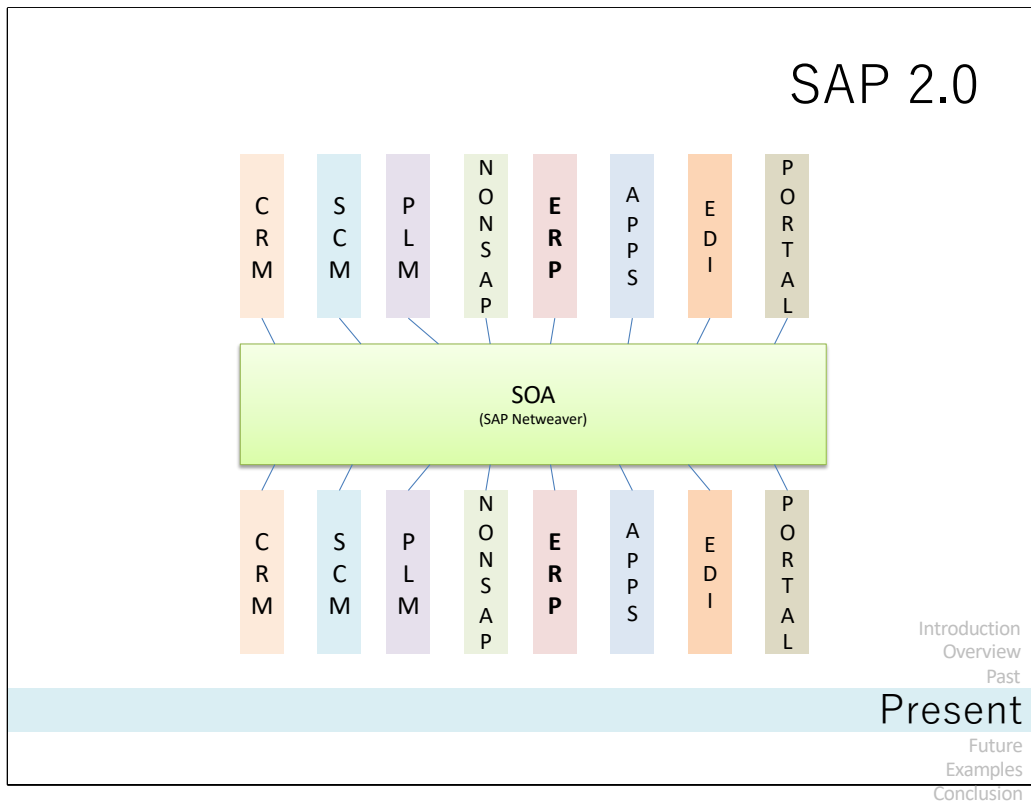


From this to this



With the good intentions that ultimately we would transition to this.





### **SAP objective**

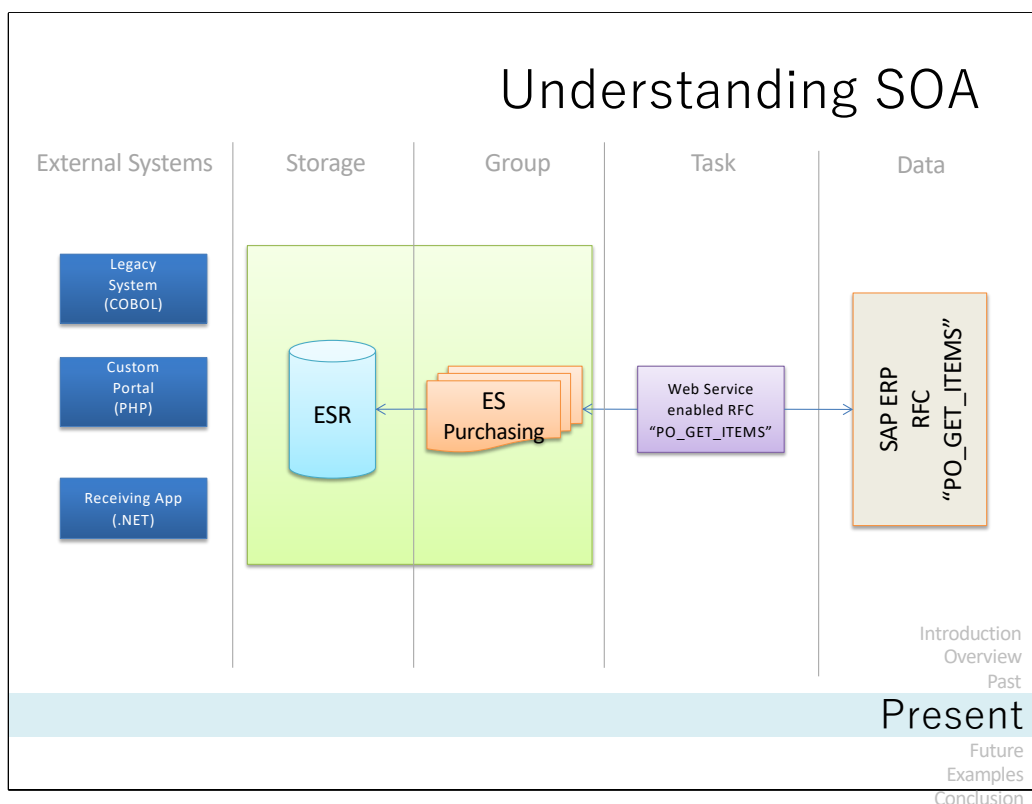
Remove the ERP as concentric source for our landscape and transform our landscape into a SOA

### **A formal definition for SOA in laymans terms is**

“A SOA provides the underlying architecture for systems or programs to loosely interact independent of language or location across a common network.”

### **SAP Goal for introducing SOA**

- Transform the data extraction function into a service.
  - Allow external applications the ability to utilize SAP's data and functionality
  - Avoid applications directly connecting to each other in a 1:1 manner and rather use a common infrastructure.
- Well how can we make this possible? Lets look at a simple example ....



**The key to building a SOA essentially is**

- Definition and creation of granular level services to commonly used functions for use by external requestors.

**How can you do that?**

- Key is to make the data or task needed available over a common protocol
  - Webservice
  - SOAP – SIMPLE OBJECT ACCESS PROTOCOL = XML

Essentially this is really the only requirement for building a SOA.

However, there are a few more steps which can really improve the visibility and its function by incorporating the service into a Enterprise service.

**Well what's the difference?**

**These services are stored in a ESR**

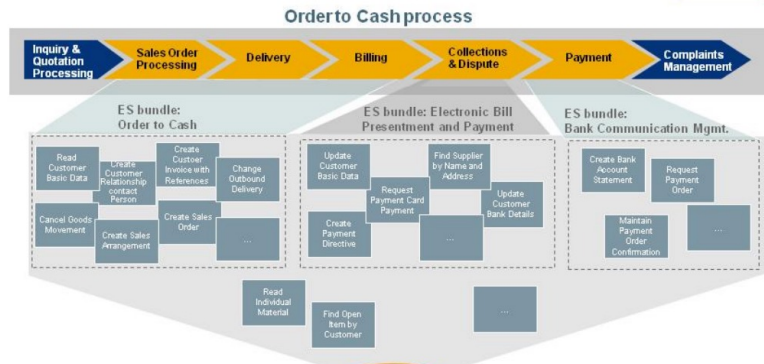
**Benefits of a SOA**

- Reusability – All 3 of my systems which need this data can use utilize this service
- Inevitable change does not disrupt - change legacy system, I don't need to add a data interaction layer for SAP, simply a SOAP layer
- Facilitates innovation
  - consumption of services not restricted to particular language or platform
  - Turns developing applications into a modeling exercise versus a programming exercise (pick and choose)

**What's really great**

SAP has actually prebuilt many of these enterprise services already

# Understanding SOA



**Definition of ES Bundles**

- Set of enterprise services addressing specific business topic
- Available for cross-industry and industry-specific business processes
- Increase flexibility in connecting business partners and 3rd party applications (system integration)



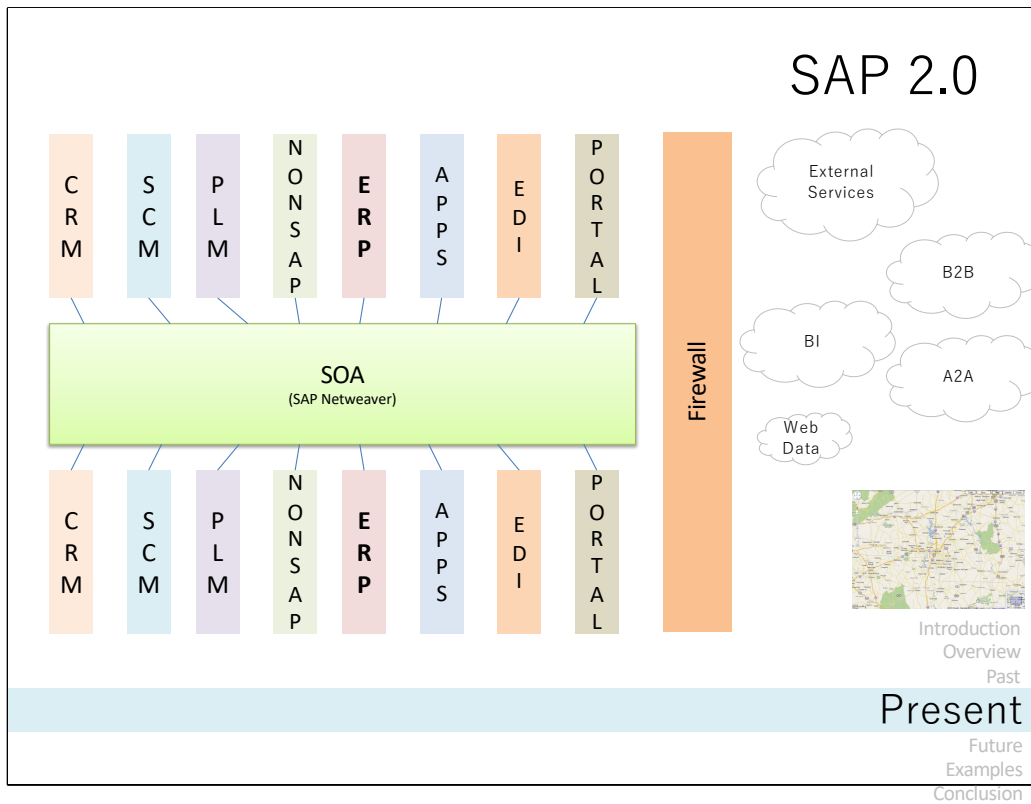
**Benefits of ES Bundles**

- Provide "quick wins" for the business
  - Easy to implement
  - Targets real business problem
- Enables new business functionality via flexible composition on top of a stable back-end
- Lower cost of ownership enabled by reusability and shared governance costs

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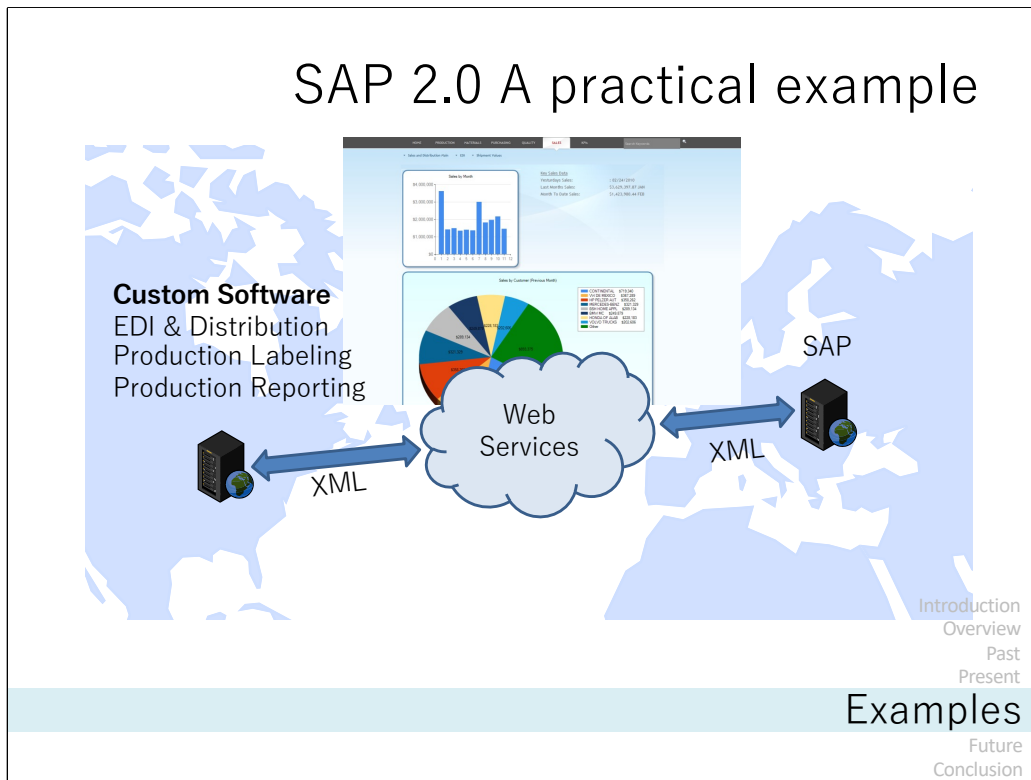


What SOA has done:

- Broken yet another barrier
- Created a open communication layer into our data and processes
- Allows us to not only utilize services inside our network but outside it as well

Ultimately what SOA is, developing a infrastructure to reuse versus rebuild.

# SAP 2.0 A practical example



Converted 10 custom ABAP programs to WS  
And utilizing about 30 other Web Service enabled FM/RFC's for all of our external systems

Also have a .NET portal being built as well

Not utilizing ESR just yet

- Have implemented and actively using web services
- Proved to be useful and successful

Taking the necessary steps to build a reusable infrastructure.

## SAP 2.0 - What do we know

- SAP 2.0 is ...
  - Not tangible
  - Built on SOA
  - Communication
  - Little Risk
- Encourages
  - Reusability
  - Composite
  - Innovation

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### SAP 2.0 is ...

- Not tangible – not a purchase
- Built on SOA
- Openness to communicate - freely
- Little Risk – not a product, but rather a strategy and mindset amongst system developers

### Encourages and promotes

- Reusability – of existing components and services
- Composite – the ability to use multiple information sources easily
- Innovation – encourages functional users to build versus developers

# SAP 3.0 – What the future holds



So with a SOA platform being adopted  
Organizations will likely see major advancements in the business landscape  
And barriers being broken

## Great thing is we will

- Start to see platform independent applications use not only ERP functions but other non-sap functions and mashing them together
- Allowing us (as customers, ISV's and so on) to build our own SAP functions from devices and sites which don't need to take data extraction into consideration allowing us to be as creative as we like.

## See the rise of the semantic enterprise

Essentially the ability of machines to understand content and relationships between systems, applications and data through meta data, meta descriptions or meta tags.

## Building systems to get you there

- Consider SOA
- Think “social”
- Encourage open communication channels
- Don’t wait for the system to get messy

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Consider it .... Next time you need a integration point

Think Social ... forget proprietary software and closed loops, encourage open communication channels and a shared services approach

Don’t wait

SOA is not a new approach, and middleware has been around for years. And my suggestion is not to rip and replace entire systems but rather take a step back, see what your landscape looks like and consider a SOA to simplify it.



# Additional Information

ES Workplace

<http://solutioncomposer.sap.com>

Web Services Navigator

<http://sr.esworkplace.sap.com/wsnavigator>

.Net Developers? Check out ES Explorer for .NET

<http://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/c0319dc4-d76d-2a10-d19f-e4f4ff315bde>

YOUR! Prebuilt Webservices:

[http://<sapserver.domain.toplevel>:<icmport>/sap/bc/b  
sp/sap/WebServiceBrowser/search.html](http://<sapserver.domain.toplevel>:<icmport>/sap/bc/b<br/>sp/sap/WebServiceBrowser/search.html)

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