Selling the CRM 2011 Architecture

TDM | IT Pros | Architects | Developers

TDM Value Proposition

- CRM embedded natively in familiar user interfaces drives productivity

- Empower end-users to turn data into insightful visualizations

- Streamlined Navigation tools like Flat UI, Subgrids, Pins and Recently Used, next/prev record reduces clicks and helps users

- Enable Teamwork and Collaboration through Queues, Teams and Connections.

- Enable more developers to deliver business solutions faster and cheaper

- Build Connected Applications in the Cloud

- Help users with step-by-step assisted workflows for key activities

- Support Security and Compliance with new enhancements such as Field Level Security and Role Tailored Forms

- Scalable, n-tiered architecture takes advantage of the Microsoft Stack

- Open and standards based interfaces for integrating across the enterprise and the internet
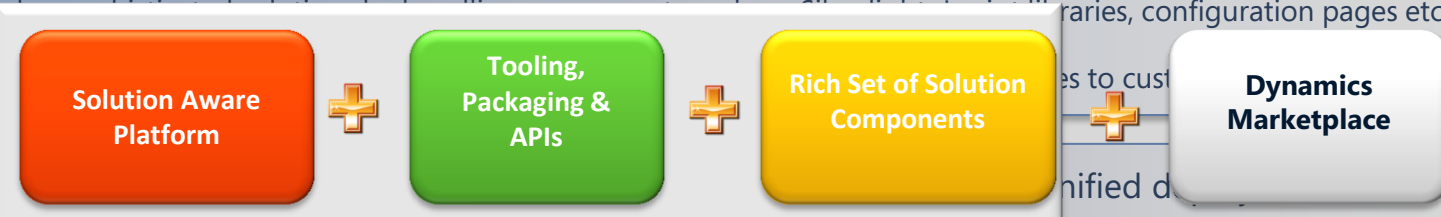
Microsoft Dynamics CRM

System Requirements

- CRM Client Requirements

  - Win7, Vista, XP (32 bit & 64 bit)

  - Internet Explorer 7.0+

  - Office 2003, 2007, 2010 (32 bit & 64 bit)

  - .Net 4.0

  - SQL Server Express 2008

- CRM server requirements

  - 64-bit Windows 2008 SP2 or 2008 R2

  - IIS7 (for web based server role)

  - .NET 4.0

- SQL server requirements

  - 64-bit SQL Server 2008 or 2008 R2

  - 64-bit Windows 2008 SP2 or 2008 R2

- Developer

  - Visual Studio 2010

- IT

  - SCCM 2007, SCCM 2007 R2

  - SMS 2003, SMS 2003 R2

  - SCOM 2007, SCOM 2007 R2

- Email Router

  - 64-bit Windows 2008 SP2 or 2008 R2

  - Win7 (32 & 64)

- Exchange and SharePoint

  - Exchange 2007, 2010, Online (12 & 14)

  - SharePoint 2007, 2010, Online (12 & 14)

Microsoft Dynamics CRM

Solutions framework

The Solutions Framework in CRM 2011 allows developers to package their customizations and components into solution packs for distribution via marketplaces and maintain complete control over the experience

V A L U E

- Multiple solutions can co-exist on the same system enabling customers to pick and choose the best fit
- Develop and distinct solutions by bundling components such as files, plugins, jscript libraries, configuration pages etc.
- Ma...   es to cust...

F E A T U R E S

- Sol...   ...nified de...   ...that sup...
- Ability to reuse an existing solution (build on top) as well as to update a solution while safeguarding end-user customizations
- Managed solutions can be un-installed as long as there is no other dependency on it.
- Developers can prevent customer from customizing any component by setting it as "not customizable"
- Granular dependency tracking
- Built-in integration with Dynamics Marketplace

| Solution Aware Platform | ➕ | Tooling, Packaging & APIs | ➕ | Rich Set of Solution Components | ➕ | Dynamics Marketplace |

Microsoft Dynamics CRM

Solution Lifecycle Management
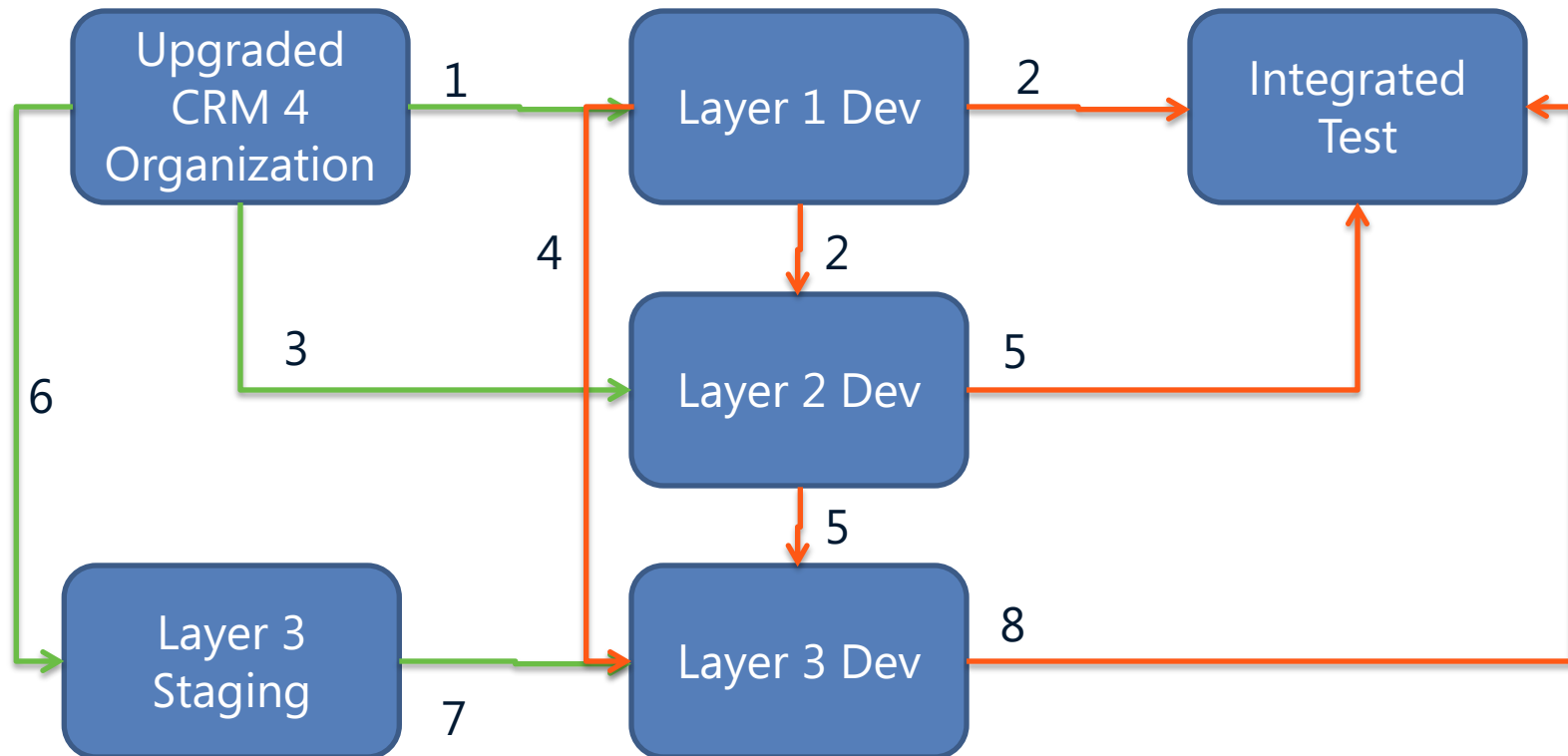
Data Modeling Enhancements

With Auditing, business administrators can now find out what changed, who changed it and when on any entity or field

VALUE
- Custom activities show better context
- Better xRM data modeling capabilities

FEATURES
- Custom Entities can now show up in history
- Option Sets can be shared between entities
- Web Resources for bundling javascript, css, Silverlight

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Reporting Enhancements

Reporting has been enhanced to go through the middle tier and is now portable across deployments

VALUE

- Easily build reports using the tools you already have and know
- Control layout and visualizations for Online reports

FEATURES

- Design report layout using standard BI Developer Studio in Visual Studio
- Create Customizable reports for CRM Online
- Use FetchXML to build custom reports
- Reports can now be packaged in a solution for portability

Microsoft Dynamics CRM

Field Level Security

CRM 2011 offers Field Level Security for all your custom entities.

VALUE

- Customers can secure sensitive data in the system at a granular level
- Security is pervasive and is applied across all access mechanisms
- Field Security profiles are evaluated at the application server

FEATURES

- Scope of field level access is Global .
- Adaptive UI in clients (Web, Outlook, Mobile)
- All components of the application – Reports, Search, Offline, Filtered Views, Auditing, Duplicate detection play by FLS Rules.
- Secured data is never sent to the clients when user does not have access
- ISVs can extend Field Access rules using SDK
- Users can share secured fields with other users who have access.

Microsoft Dynamics CRM

Business Data Auditing

With Auditing, business administrators can now find out what changed, who changed it and when on any entity or field

VALUE
- Administrators can configure Organization wide setting for auditing
- Audit history is easily discovered for ad-hoc view of audit data

FEATURES
- Audit is available for OOB entities as well as custom entities
- Area wide editing allows users to audit Sales or CS or Marketing entities
- Audit can be enabled on entity level as well as field level
- SDK support is available for auditing

Microsoft Dynamics CRM

Visualizations and Dashboards

Inline visualizations allow users to look at the data visually and reduce dependence on transactional reports.

VALUE

- Design charts quickly within a few clicks and then use them to navigate data-sets
- Create organizational or user specific charts and share or assign them
- Drill down to get increasing level of detail presented visually

FEATURES

- Once created, charts are instantly usable on dashboards
- Charts are share-able across users, and teams and can be exported.
- Charts are based on FetchXML Aggregation
- FetchXML Aggregation is Middle-tier optimized
- FetchXML aggregation employs Caching mechanism for performance

Microsoft Dynamics CRM

Document Libraries

Built-In SharePoint integration makes adding contextual libraries a snap.

VALUE

- Link any CRM entity with its own contextual library
- Find documents that are related to Accounts, Opportunities etc. in their library
- Boost productivity through enhanced collaboration across information and supporting docs.

FEATURES

- List parts for SharePoint 2010
- Manage documents across multiple SharePoint sites
- Connect with SharePoint Online or On-Premises
- Contextual libraries can be created through workflow or on-demand

Microsoft Dynamics CRM

Process Center

Process center is new in CRM2011 and now has Dialogs and a host of other performance related improvements

VALUE

- Performance improvements make Process center stable and even more capable than before
- Self managing and cleaning workflows reduce IT overhead and eliminate system slowdowns
- Dialogs allow for over-riding OOB guided functionality by

FEATURES

- Workflow upgraded to .NET 4.0 and the latest version on Windows Workflow Foundation
- Workflow upgrade performance 3-4x faster: Fully declarative => no need to re-compile
- Workflow runtime is now 4x faster
    - Reduced persistence footprint
    - Increased performance of instance creation
- Async service upgraded for stability
- Self managing and cleaning

Microsoft Dynamics CRM

Microsoft Dynamics CRM Architecture

Integrated Applications

Front End Integration

Web   Outlook   Mobile

Extensible Application: Form and client side events, Ribbon, Sitemap, Web Resources, JS libraries...

Reporting
(Dashboards, Charts, Excel, FetchXML and SRS)

Web Services

Back End Integration server-to-server

Pre-Event Plug-ins (.NET Assemblies)

Post-Event Plug-ins (.NET Assemblies)

Custom Workflow (.NET Assemblies)

Security

Synchronous and Asynchronous Business Logic

Business Entity Components

Data Access Components

Data Access Platform

Workflow

Metadata   Data

Filtered SQL Views

Microsoft Dynamics CRM

Security and Authentication

CRM 2011 has a pluggable claims-based authentication
archi...

Authentication Mode	Windows(On-premises)	Claims Mode

V A L U E

- Acce...
- Tear...
- Enab...

F E A T U R E S

- Use...
- No...
- Rer...
- De...

w roles

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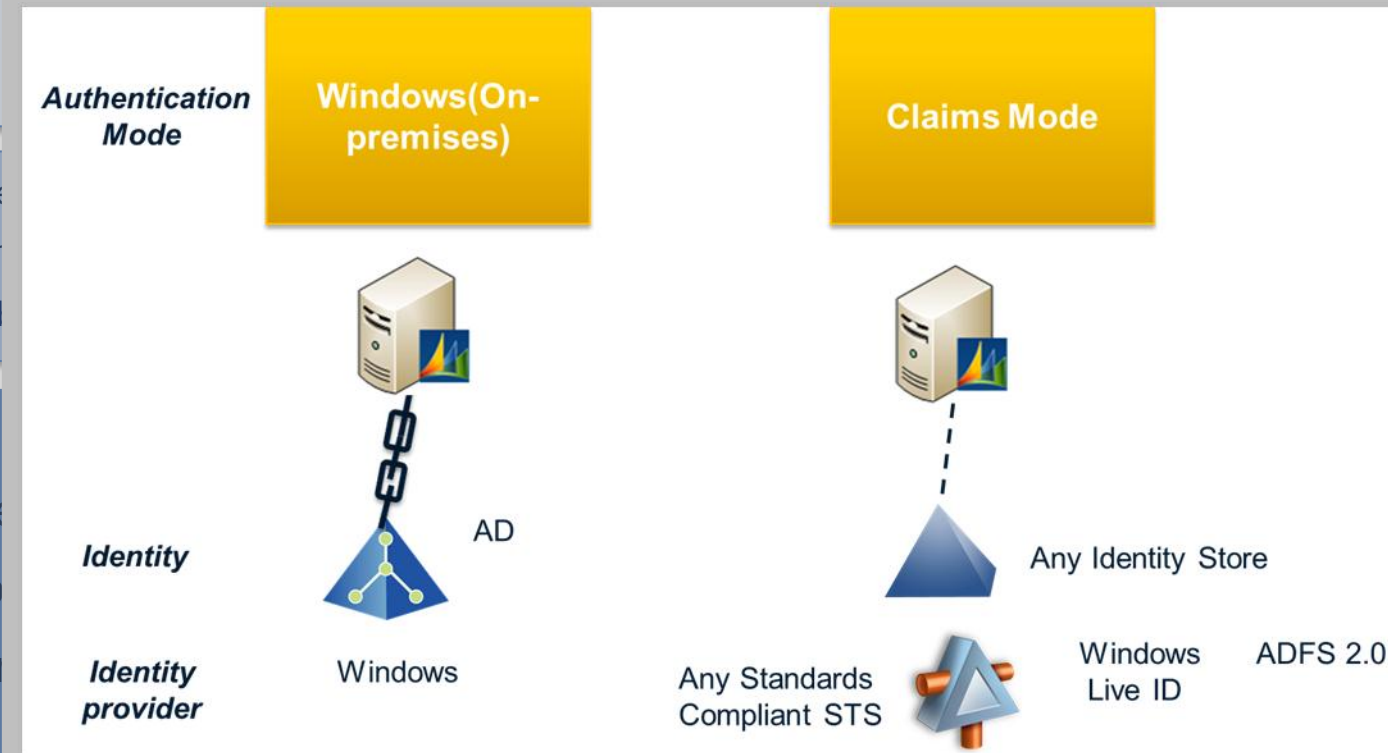
SSO between Applications

Application in the cloud

Trust

Policy: Name==Paul

①

②

③

Client

CRM \ LOB Web Site

Trust

Policy: Name==Paul

Identity Provider

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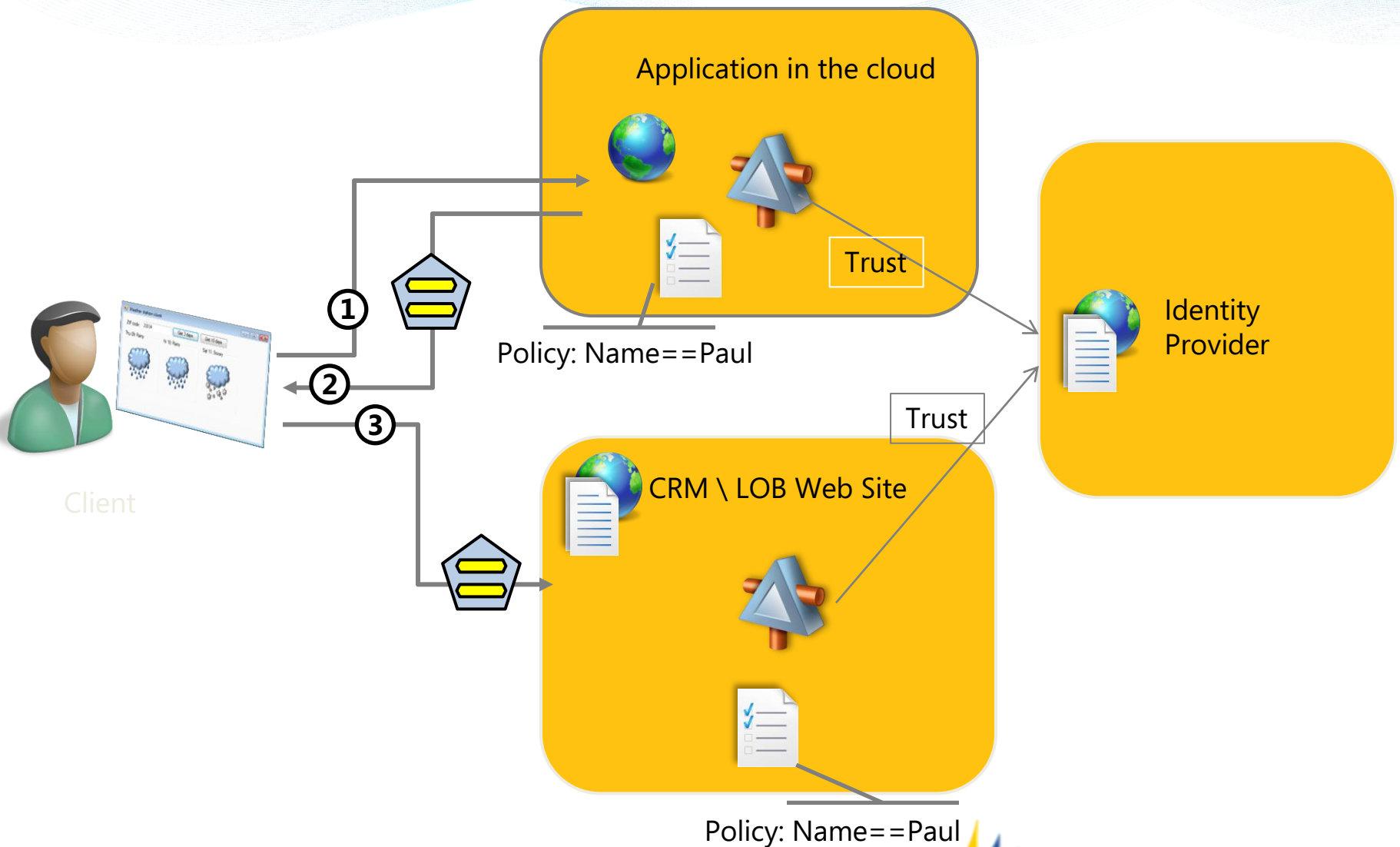
Delegated Access across applications

Identity Provider

CRM \ LOB Web Site

Service.svc

CRM\LOB Web Service

Service.svc

Client

① ② ③ ④ ⑤

Policy: Name==Paul

Policy: Name==Paul

Microsoft Dynamics CRM
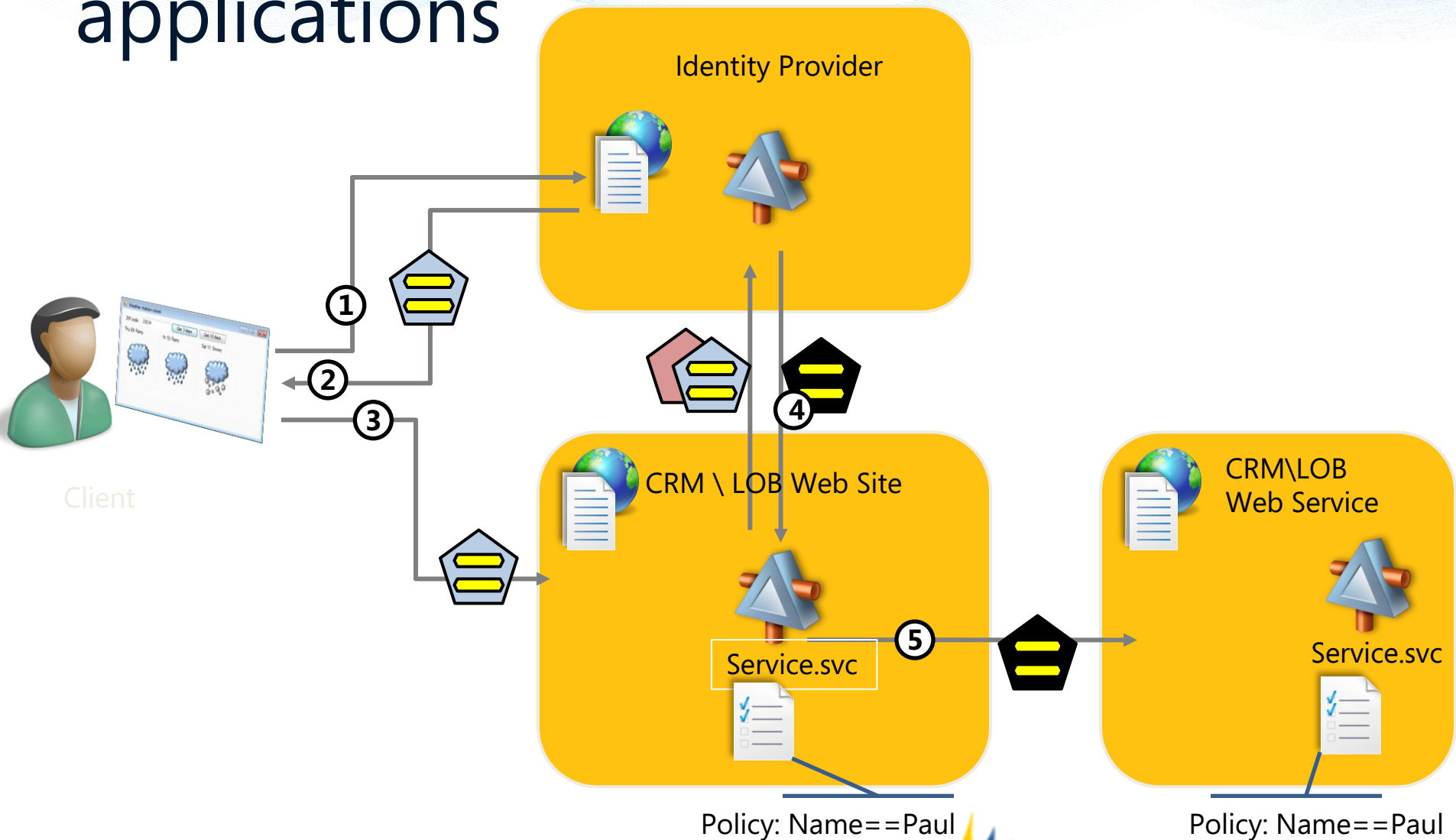
Extreme Scale for any Deployment

Microsoft Dynamics CRM and its n-tier architecture is highly scalable across a~~~~~~~

- Use Microsoft D~~~~~~~~ent wide deployments
- Lowest cost for ~~~~~~~stry

100,000 concurrent users
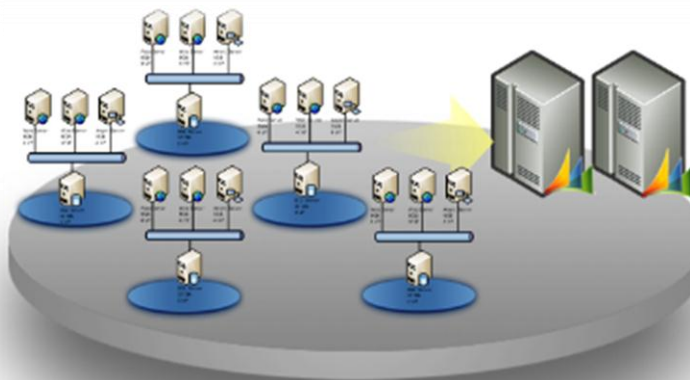
Two Dell servers powered by
Intel Nehalem-EX processors

- **5 Million** req~~~~~

- **0.29** second a~~~~~

- **Scale-out** for lower cost in hardware and operations

Microsoft Dynamics CRM

Azure App Fabric Integration

CRM 2011 has built in integration with the Azure App Fabric Service Bus which makes CRM Online integration with On-Premises applications simple

VALUE

- Send messages from CRM Online to On-Premises systems in a secured manner.
- App fabric service bus can navigate firewalls, requires no infrastructure and is billed on consumption
- Open up a host of integration possibilities between Organization, Partner or Customer.

FEATURES

- Claims aware integration with the Service Bus
- Create message plug-ins for the Service Bus in less than a minute

Microsoft Dynamics CRM

Architect demo

Server Side Extensibility

Claims based identity management

Azure Services Integration

Portal integration with CRM

Microsoft Dynamics CRM

Developer

- Extensibility Enhancements

- Flexible Programming

- LINQ, OData, JSON, ATOM..

- Plug-in enhancements and control

- Solutions Framework

Microsoft Dynamics CRM

Extensibility Enhancements

Lots of new features for developers to take advantage of, while building solutions for Dynamics CRM

VALUE

- A wider array of tools available to work with the WCF endpoints

- REST based interfaces and Open Data protocol make mash-ups really simple

- Consistent Programming experience between SharePoint 2010, Dynamics CRM 2011, SQL Azure

FEATURES

- API endpoints upgraded to .NET 4.0

- In CRM 2011 native CRM data-types are the same as .NET data-types.

- LINQ provider for querying Dynamics CRM data through the API.

- Strong typing support on the client side through code-gen and allows strongly-typed entities and request / responses to be interchangeable with the late-bound entities.

- Enhanced SDK gives developers choice for integration (SOAP, REST, abstracted, Service Bus)

- CRM includes Service Bus en-queue by simply adding a message through plugin-registration tool.

- Uniform data representation with ATOM and JSON support through OData protocol

- Uniform URL addressability and conventions for navigation, filtering, sorting, paging.

Microsoft Dynamics CRM

Flexible Programming
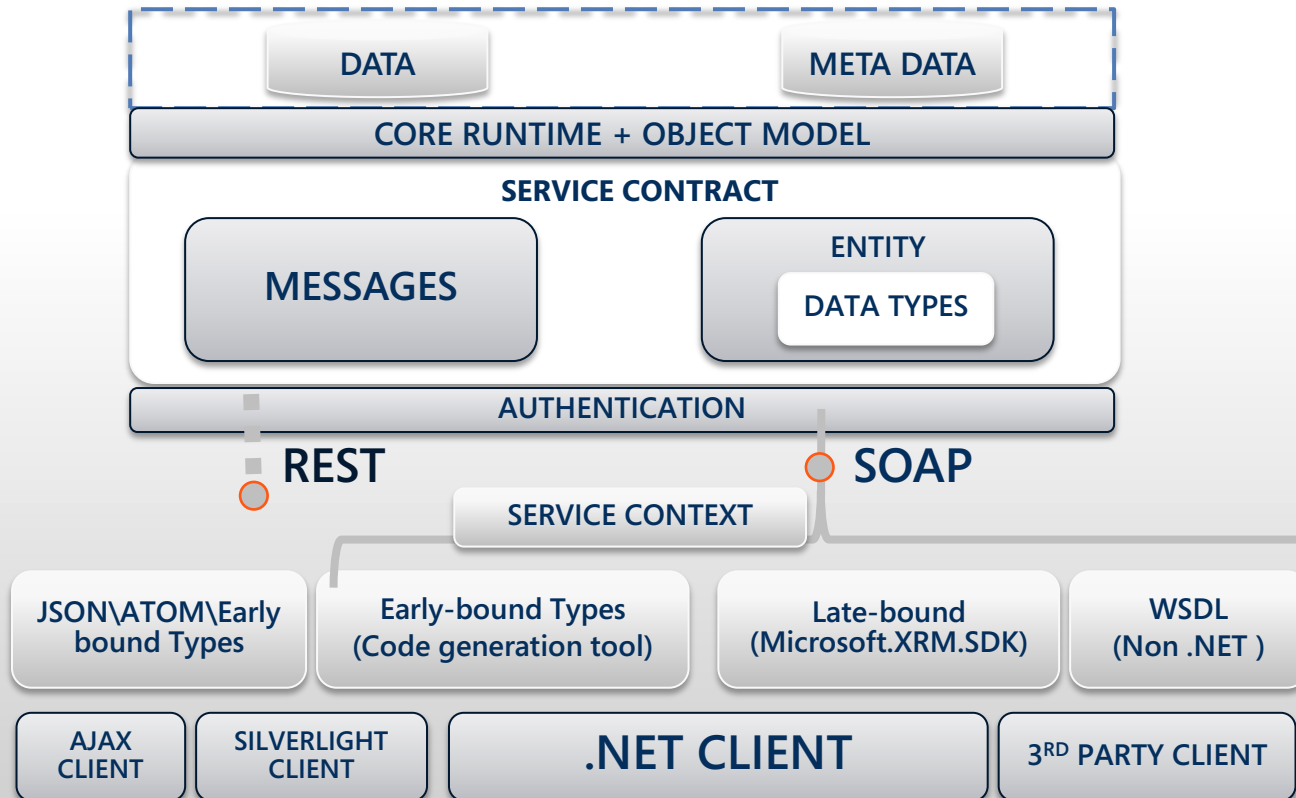
Querying XRM with LINQ

```csharp
var charlieBrown =
    crm.ContactSet.FirstOrDefault(c =>
            c.Email == "charlie.brown@peanuts.com");
if (charlieBrown != null)

    Console.WriteLine(charlieBrown.FullName);


 var peanutsContacts = from c in crm.ContactSet
     where c.Email.EndsWith("@peanuts.com")
     select c;
foreach (var c in peanutsContacts)
    Console.WriteLine(c.FullName);
```

Microsoft Dynamics CRM

Creating Records via OData

```
var crm = new CrmDataContext("CRMOnline");
var contact = new Contact()
{
    FirstName = "Charlie", LastName = "Brown",
    Email = "charlie.brown@peanuts.com",
    Role = 1, Gender = 1, Address1City = "Redmond",
    Address1Street1 = "1 Microsoft Way",
    Address1ZIPPostalCode = "98052"
};
crm.AddToContacts(contact);
crm.SaveChanges();
```

Microsoft Dynamics CRM

Plug-In Execution Enhancements

Plug-ins are custom .NET assemblies that hook into CRM transactions and

Plug-in exe... gh SDK

Microsoft Dynamics CRM

CRM 2011 Architecture Enhancements

IT PRO
MANAGEABLE AND SECURE

- Server side throttling to balance performance across Outlook Clients
- Tenant Admin center to control offline data filters
- Enhanced Security and Auditing
- Completely based on 64-bit architecture
- High performance bulk data load

ARCHITECT
SCALABLE AND OPEN

- Out-of-box Integration with Microsoft Cloud Services
- n-tier Architecture for scaling up and out
- Claims-based authorization and federation
- New Process center with architecture enhancements
- Declarative, Iterative and Metadata driven development

DEVELOPER
MODEL DRIVEN FOR NEW IDEAS
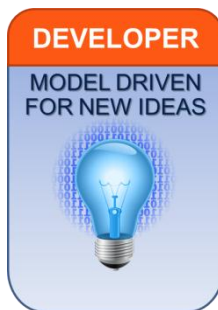
- Solution management and packaging for Marketplace
- Enhanced data modeling along with .NET 4.0 upgrade
- Flexible web services (WCF, REST, AJAX)
- Client-side object model supports ATOM and JSON objects
- Enhanced query support through LINQ

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