



Il ruolo di DB2 Express-C nel mondo dell' information on demand



Raul F. Chong
DB2 Express Community Facilitator
Email: rfchong@ca.ibm.com
Last updated: August 22nd, 2006



Disclaimer/Trademarks

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements, or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information may contain examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious, and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Trademarks

The following terms are trademarks or registered trademarks of other companies and have been used in at least one of the pages of the presentation:

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both: AIX, AS/400, DataJoiner, DataPropagator, DB2, DB2 Connect, DB2 Extenders, DB2 OLAP Server, DB2 Universal Database, Distributed Relational Database Architecture, DRDA, eServer, IBM, IMS, iSeries, MVS, Net.Data, OS/390, OS/400, PowerPC, pSeries, RS/6000, SQL/400, SQL/DS, Tivoli, VisualAge, VM/ESA, VSE/ESA, WebSphere, z/OS, zSeries

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

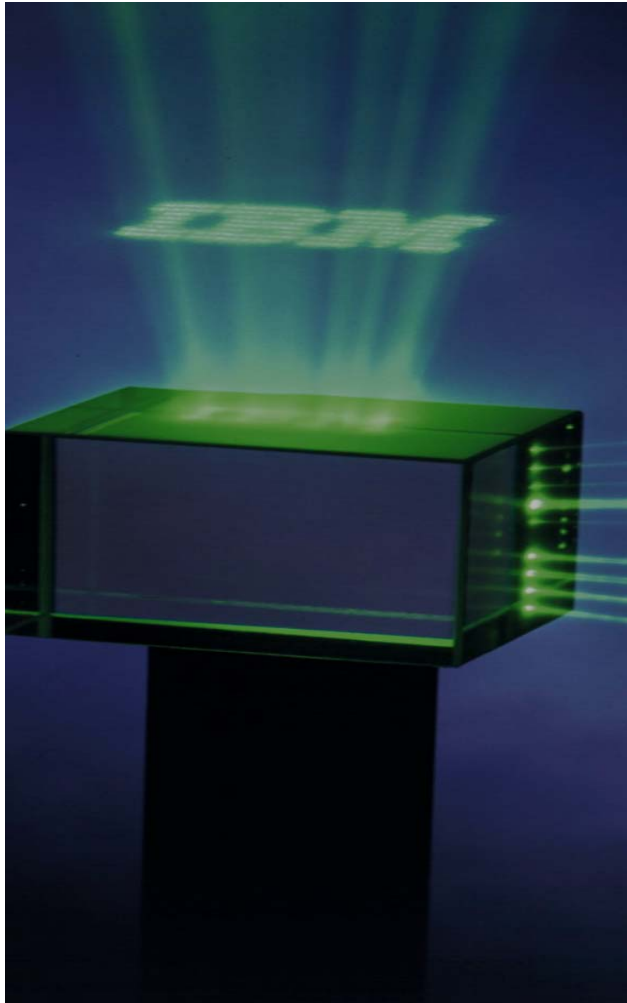
Intel and Pentium are trademarks of Intel Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

Agenda



- Introduzione
- La strategia IBM
- DB2 Express-C
- Quale opportunità per voi
- Come contattarci

Introduzione

- **Il laboratorio IBM di Toronto**
 - Il più grande laboratorio software del Canada
 - 2.500 sviluppatori, ingegneri e architetti
 - La terza più grande realtà nell'ambito della divisione software IBM
 - Fondatore del CAS – CASCON
 - Prodotti:
 - DB2 (Distributed platforms)
 - Websphere tools
 - Rational Developer for Web/Java
 - Tivoli Intelligent Orchestrator



IBM Toronto Lab - From 55 people in 1967 to 2500 professionals with international mandates today.

La strategia IBM

La strategia IBM

- Innovazione
- On demand business
- Information on demand (IOD)
- Service Oriented Architecture (SOA)
- Web services
- XML

La strategia IBM



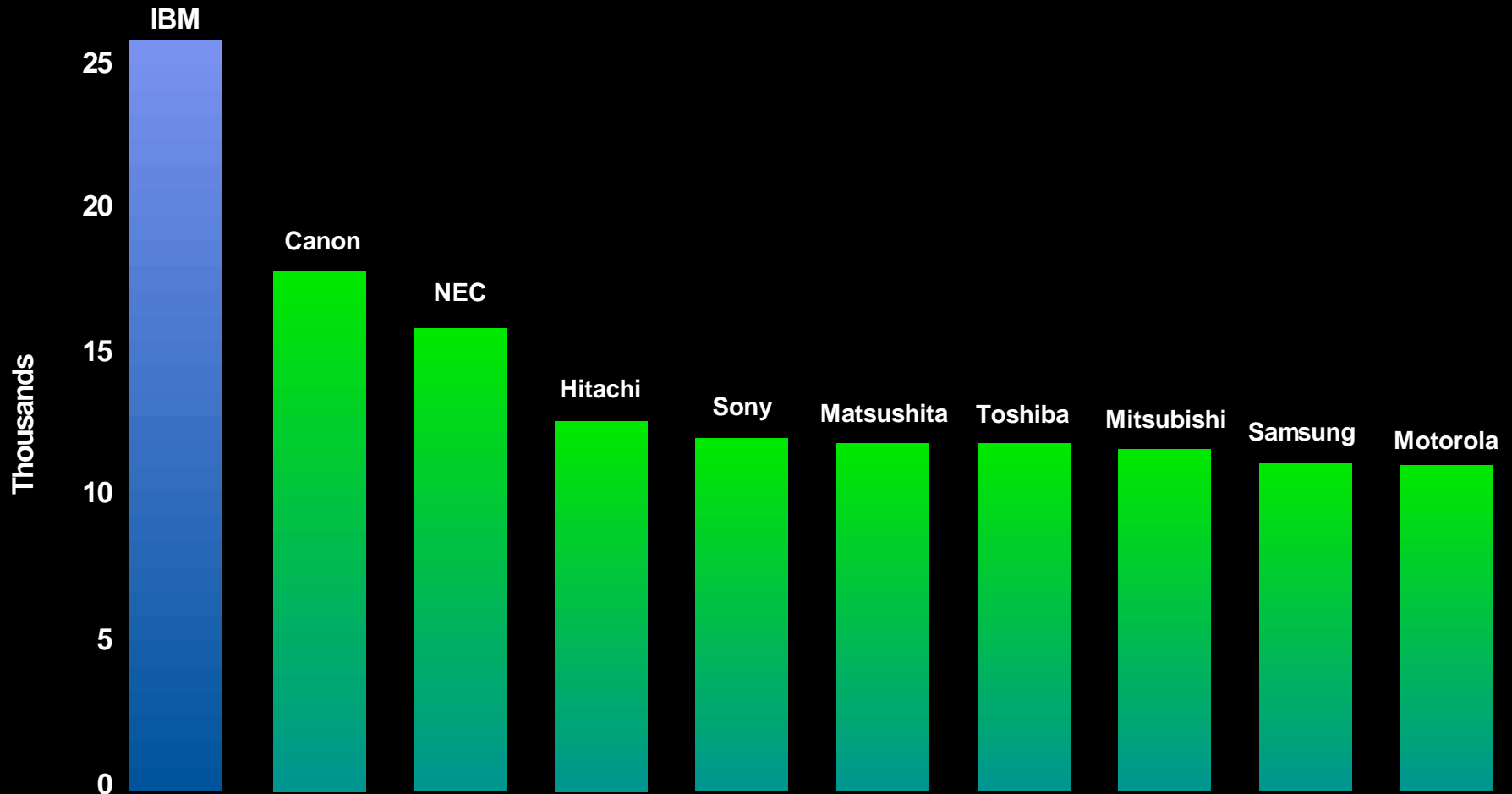
- **Innovazione**
- On demand business
- Information on demand (IOD)
- Service Oriented Architecture (SOA)
- Web services
- XML

Qual è la società leader per brevetti?

- a) Microsoft
- b) Motorola
- c) IBM

IBM Intellectual property

Brevetti depositati tra il 1993 e il 2003



L'innovazione IBM nei data server

Pietre miliari

1968

Primo Database Gerarchico

- La IBM annuncia IMS nel 1966 per il programma spaziale Apollo.

1981

Primo Database Relazionale IBM

- La IBM annuncia il DB2 dopo il prototipo System R.

2006

Primo Database Multistruttura

- DB2 versione 9 è il primo data server che gestisce sia dati di tipo relazionale che in formato XML nativo.

L'innovazione IBM

L'essenza dell'innovazione

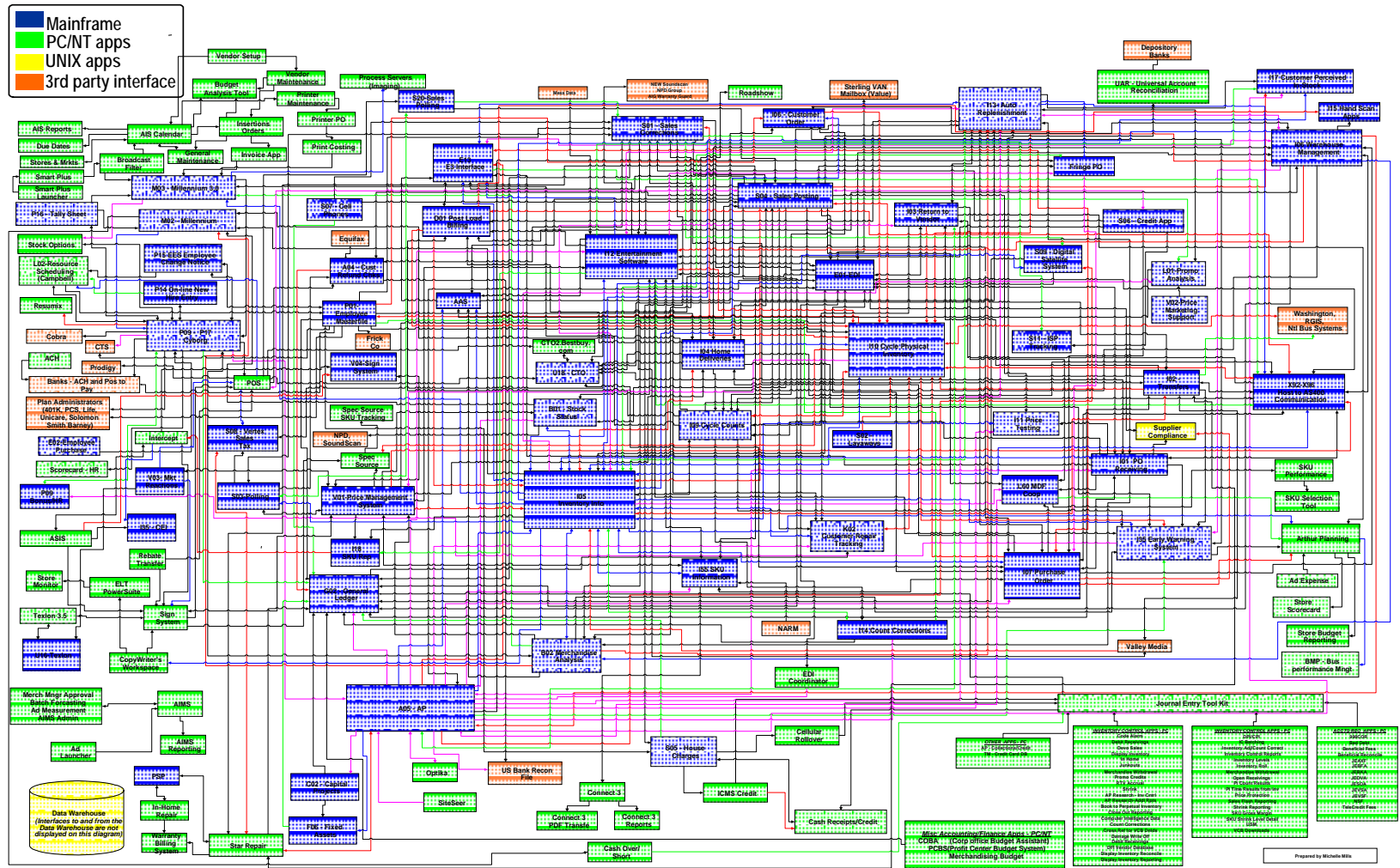
- L'innovazione oggi non è più confinata nei laboratori di ricerca e di sviluppo, ma viene generata dalla **intersezione** tra il mondo scientifico, quello del business e la società in senso lato.
- L'innovazione prospera attraverso la **collaborazione**
- Abbiamo bisogno che le **università** alimentino la crescita e l'innovazione

La strategia IBM – Concetti chiave

- Innovation
- **On demand business**
- Information on demand (IOD)
- Service Oriented Architecture (SOA)
- Web services
- XML

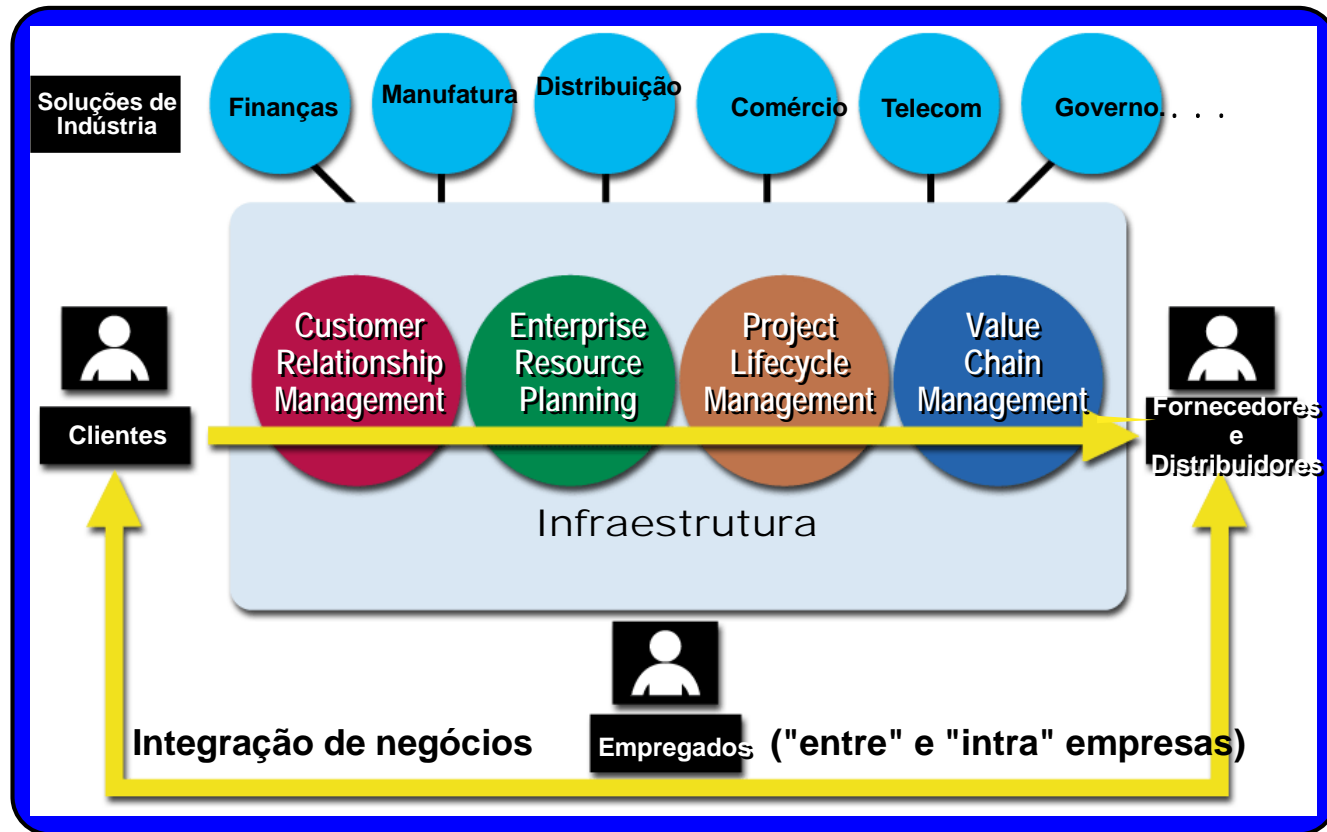


La realtà odierna: la complessità




Un esempio reale di architettura aziendale

Le aziende integrate

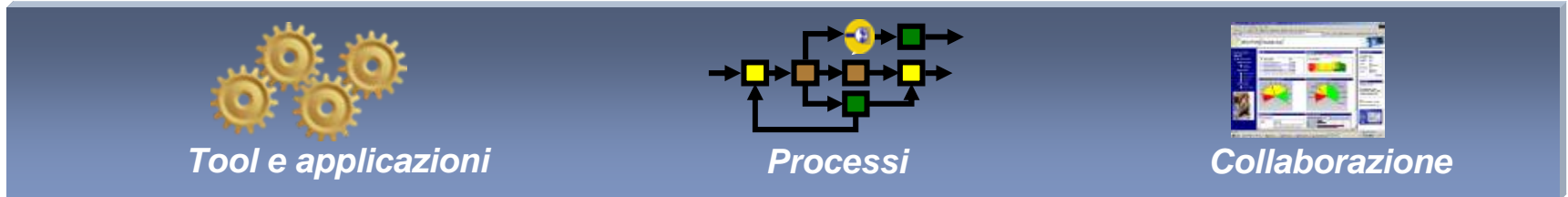


La strategia IBM – Concetti chiave


- Innovation
- On demand business
-  ■ **Information on demand (IOD)**
- Service Oriented Architecture (SOA)
- Web services
- XML

La strategia IBM: l'informazione come Servizio

Da architettura di progetto ad architettura flessibile (SOA)



La strategia IBM – Concetti chiave

- Innovation
- On demand business
- Information on demand (IOD)
-  ■ **Service Oriented Architecture (SOA)**
- Web services
- XML

Perchè la SOA è diversa?

- Senza interdipendenze tra sistemi
- Indipendente dalla piattaforma e dal linguaggio
- Riutilizza l'infrastruttura tecnologica esistente
- Facile, economica
- Tema centrale per tutto il mondo IT: IBM, Microsoft, SAP, Oracle ...
- Tutto si basa sui Web service/XML e altri **standard industriali**

Quanto la IBM è coinvolta nell' open source..

Ambiente di sviluppo integrato e aperto

Eclipse

IBM ha donato \$40M come contributo tecnologico iniziale

Integrazione aperta di applicazioni

Web Services

IBM ha guidato o ha co-guidato la creazione di SOAP, WSDL, UDDI, WS-Security, BPEL4WS
...

Application server aperto

J2EE and Apache Derby

IBM ha contribuito in modo significativo alle specifiche J2EE. IBM ha donato Cloudscape = Apache Derby

Sistema operativo aperto

Linux

IBM è il principale sponsor commerciale di Linux e ha donato 500 brevetti software

La strategia IBM – Concetti chiave

- Innovazione
- On demand business
- Information on demand (IOD)
- Service Oriented Architecture (SOA)
- **Web services**
- XML



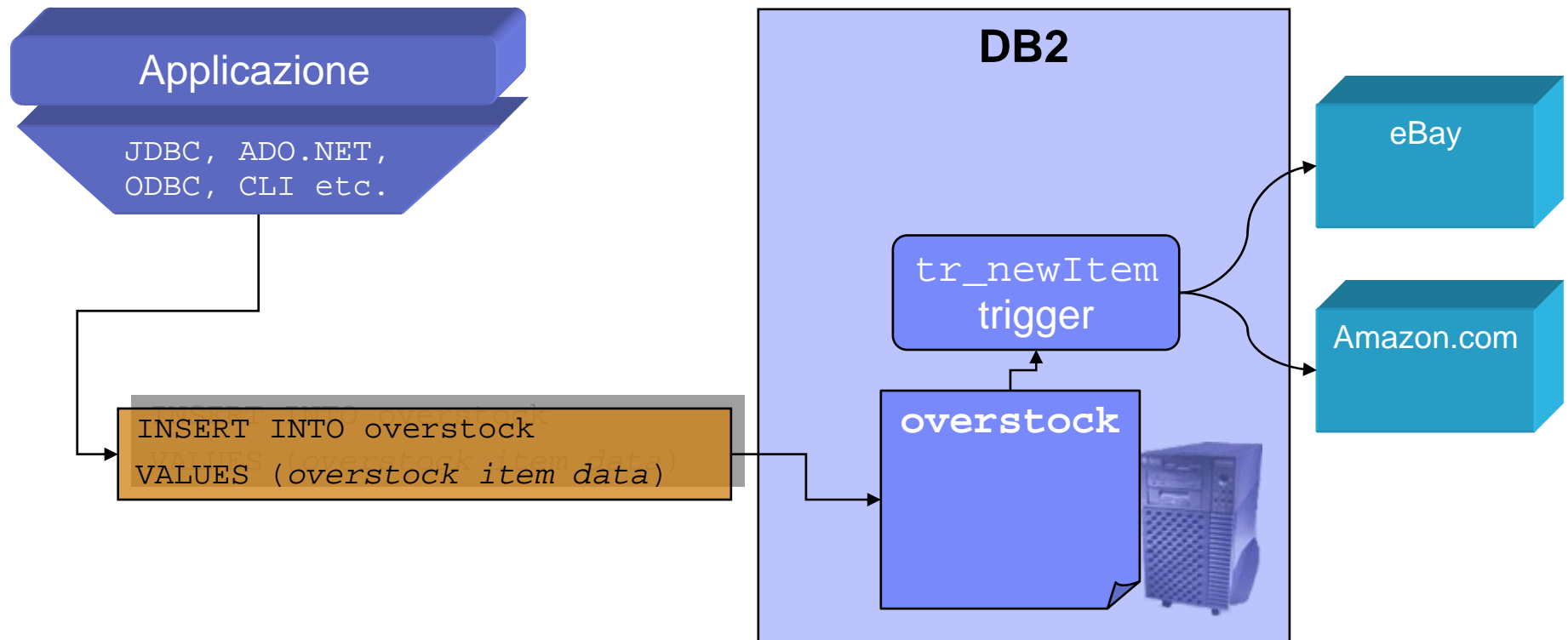
Che cosa è un Web Service?

- Un modo standard con il quale un'applicazione richiama una funzione in rete.

- SENZA dover sapere:
 - dove **risiede** la funzione che viene invocata,
 - la **piattaforma** sulla quale gira la funzione,
 - con quale **linguaggio di programmazione** è stata scritta, e persino chi l'ha scritta.

E più importante ancora: i Web Services sono facili!

Es.: DB2 quale fruitore di Web service: come sviluppare un nuovo canale di vendita



La strategia IBM – Concetti chiave

- Innovation
- On demand business
- Information on demand (IOD)
- Service Oriented Architecture (SOA)
- Web services
- **XML**



Che cosa è XML?

- XML = eXtensible Markup Language
- HTML: Descrive il display
` Raul `
- XML: descrive i dati
`<name> Raul </name>`

Perchè XML?

- Flessibilità
- Facilità di estensione
- XML si autodescrive
- Facilità di trasformare documenti XML in altri formati (HTML, etc.)
- Vendor e platform independent
- Facilità di **condividere** XML tra le applicazioni, le attività di business e I processi

Chi utilizza XML? Tutti!

Financial		
ACORD	XML for Insurances	http://www.acord.org/standards/lifexml.aspx
FIXML	Financial Information eXchange protocol	http://www.fixprotocol.org/cgi-bin/Spec.cgi?menu=4
FPML	Financial Product ML	http://www.fpml.org/spec/index.asp
FUNDSML	Funds Markup Language	http://www.funds-xml.org/html/download.htm
XBRL	eXtensible Business Markup Language	http://www.xbrl.org/r
Life Sciences		
AGAVE	Architecture for Genomic Annotation, Visualization and Exchange	http://www.lifecde.com/products/agave/
BSML	Bioinformatic Sequence Markup Language	http://www.bsml.org/resources/default.asp
CML	Chemical Markup Language	http://www.xml-cml.org/
Publication etc.		
SportML	Sport Markup Language	http://www.sportsml.com/specifications.php
NewsML	News Markup Language	http://www.newsml.org/pages/spec_main.php
XBITS	XML Book Industry Transaction Standards	http://www.xmlbits.org/docs.asp
XPRL	eXtensible Public Relations Language	http://www.xprl.org/
Other		
LandML	Land Development Markup Language	http://www.landxml.org/spec.htm
MODA-ML	Middleware tOols and Documents to Enhance the textile/clothing supply chain through xML	http://www.moda-ml.net/moda-ml/repository/schema/V2003-1/default.asp?lingua=en
MatML	Materials Property Data Markup Language	http://www.matml.org/schema.htm
JXDM	Global Justice XML Data Model	http://it.ojp.gov/jxdm/3.0/index.html
ebXML	Electronic Business using eXtensible Markup Language	http://www.ebxml.org/specs/
...

XML Previsioni di mercato

- Lo Storage per dati XML è un' area ad alta crescita

Figure VI.2: Market Size by XML Data Store Solution Type

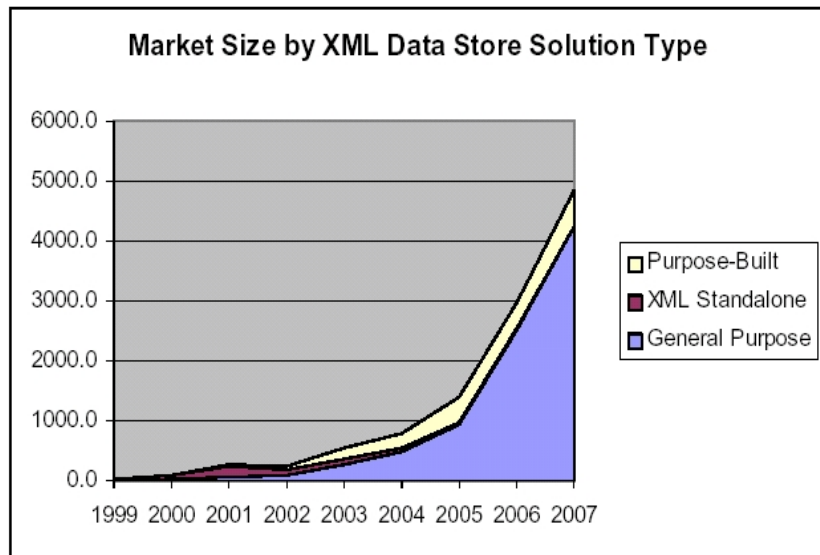
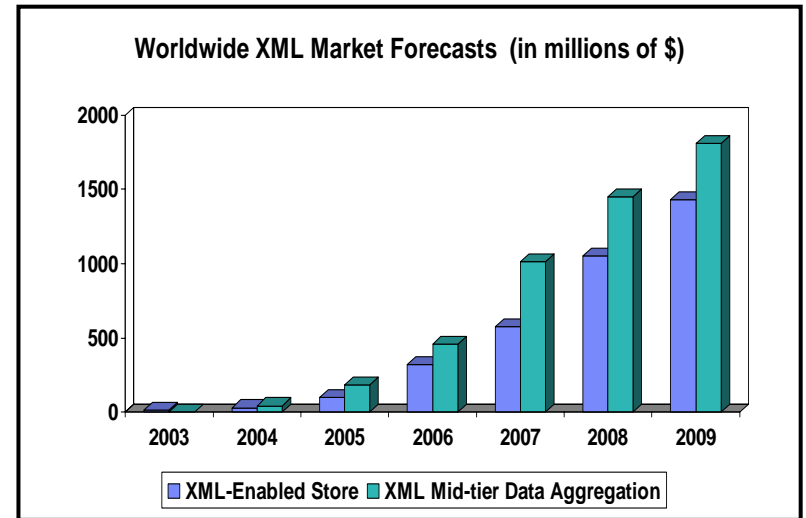


Chart Sources: XML Market Opportunities, Forecasts and Strategies, 2004-2009
 Wintergreen Research Inc. ZapThink



- Il fatturato generato dai database XML è atteso crescere ad un tasso pari al doppio con il quale è atteso invece crescere il mercato globale dei database - IDC

Worldwide Enterprise Database Management Systems
 Software Forecast Update, 2003-2007

XML rispetto al modello Relazionale

```
<DEPARTMENT deptid="15" deptname="Sales">
  <EMPLOYEE>
    <EMPNO>10</EMPNO>
    <FIRSTNAME>CHRISTINE</FIRSTNAME>
    <LASTNAME>SMITH</LASTNAME>
    <PHONE>408-463-4963</PHONE>
    <SALARY>52750.00</SALARY>
  </EMPLOYEE>
  <EMPLOYEE>
    <EMPNO>27</EMPNO>
    <FIRSTNAME>MICHAEL</FIRSTNAME>
    <LASTNAME>THOMPSON</LASTNAME>
    <SALARY>41250.00</SALARY>
  </EMPLOYEE>
</DEPARTMENT>
```

Relazionale

Set oriented
 Structure
 Strong schema
 Strongly typed
 Tabular data model
 Flat
 3 value logic
 "Null"
 ANSI/ISO

XML

Sequences (*ordered!*)
 Semi-structured
 Schema-chaos
 Optionally typed
 XML data model
 Nested, hierarchical
 2 value logic
 Not there at all
 W3C

Reparto

DEPTID	DEPT NAME
15	Sales

Impiegato

DEPTID	EMP NO	NOME	SURNAME	TELEPHONE	SALARY
15	27	MICHAEL	THOMPSON	NULL	41250
15	10	CHRISTINE	SMITH	408-463-4963	52750

XML e Relazionale: una semplice richiesta di variazione di schema. ...

```

<DEPARTMENT deptid="15" deptname="Sales">
  <EMPLOYEE>
    <EMPNO>10</EMPNO>
    <FIRSTNAME>CHRISTINE</FIRSTNAME>
    <LASTNAME>SMITH</LASTNAME>
    <PHONE>408-463-4963</PHONE>
    <PHONE>415-010-1234</PHONE>
    <SALARY>52750.00</SALARY>
  </EMPLOYEE>
  <EMPLOYEE>
    <EMPNO>27</EMPNO>
    <FIRSTNAME>MICHAEL</FIRSTNAME>
    <LASTNAME>THOMPSON</LASTNAME>
    <PHONE>406-463-1234</PHONE>
    <SALARY>41250.00</SALARY>
  </EMPLOYEE>
</DEPARTMENT>

```

Con il relazionale richiede:

- Normalizzazione dei dati esistenti !
- Modifica della mappatura
- Modifica delle applicazioni

Phone

EMPNO	PHONE
27	406-463-1234
10	415-010-1234
10	408-463-4963

Department

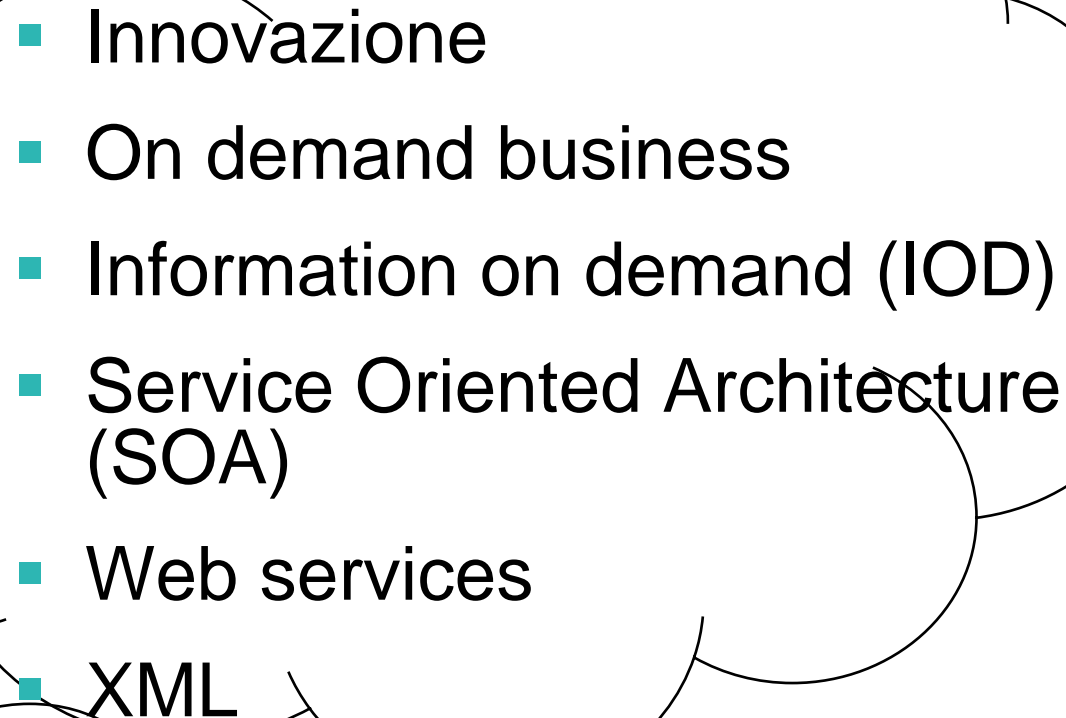
DEPTID	DEPTNAME
15	Sales

Costly!

Employee

DEPTID	EMPNO	FIRSTNAME	LASTNAME	PHONE	SALARY
15	27	MICHAEL	THOMPSON	406-463-1234	41250
15	10	CHRISTINE	SMITH	408-463-4963	52750

La strategia IBM

- 
- Innovazione
 - On demand business
 - Information on demand (IOD)
 - Service Oriented Architecture (SOA)
 - Web services
 - XML

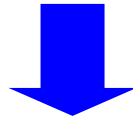
Come si posiziona DB2 in questo contesto?

Il ruolo del DB2 nel mondo dell' Information on Demand

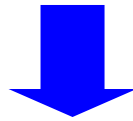
On demand business



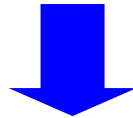
Information on demand (IOD)



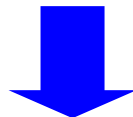
Service Oriented Architecture (SOA)



Web services



XML



DB2 9

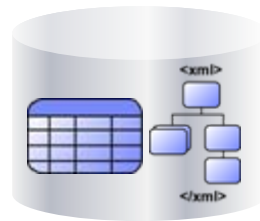
Cosa significa quanto detto?

DB2 è un data server relazionale ...
come è possibile archiviare documenti XML?

DB2 9 è un data server “IBRIDO”: SQL e XML



Persona SQL ... “vedo un RDBMS che supporta anche XML”



DB2 con il Supporto XML



Persona XML ... “vedo un repository XML che supporta anche SQL”

XML integrato in tutti gli aspetti di DB2!

Perchè utilizzare XML in un database?

- Gestire grandi volumi di dati XML è un problema!
 - Efficienza nella ricerca e nel recupero di dati XML
 - Persistenza, Recovery, Transazioni, ACID
 - Performance, Scalabilità
 - *...le stesse motivazioni per I dati relazionali!*

- Integrazione
 - Integrare nuovi dati XML con gli esistenti dati relazionali
 - Publicare dati (relazionali) come XML
 - Supporto del Database per web applications, SOA, web services (SOAP)

Demo (XML)

*dal libro "Understanding DB2 V9"

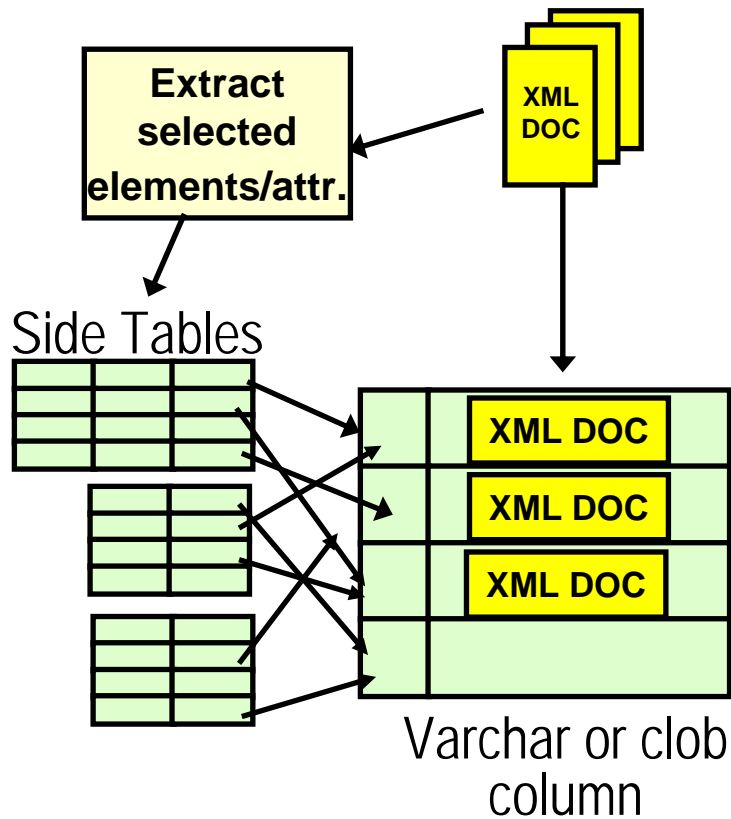
Database XML

- Database abilitati XML
 - Alla base un modello dati non XML (ma, ad esempio, relazionale)
 - E' richiesta una mappatura tra il modello dati XML e quello del database, altrimenti i dati XML vengono archiviati come testi/CLOB
 - Dove, ad esempio: con DB2 XML Extender (V7, V8)

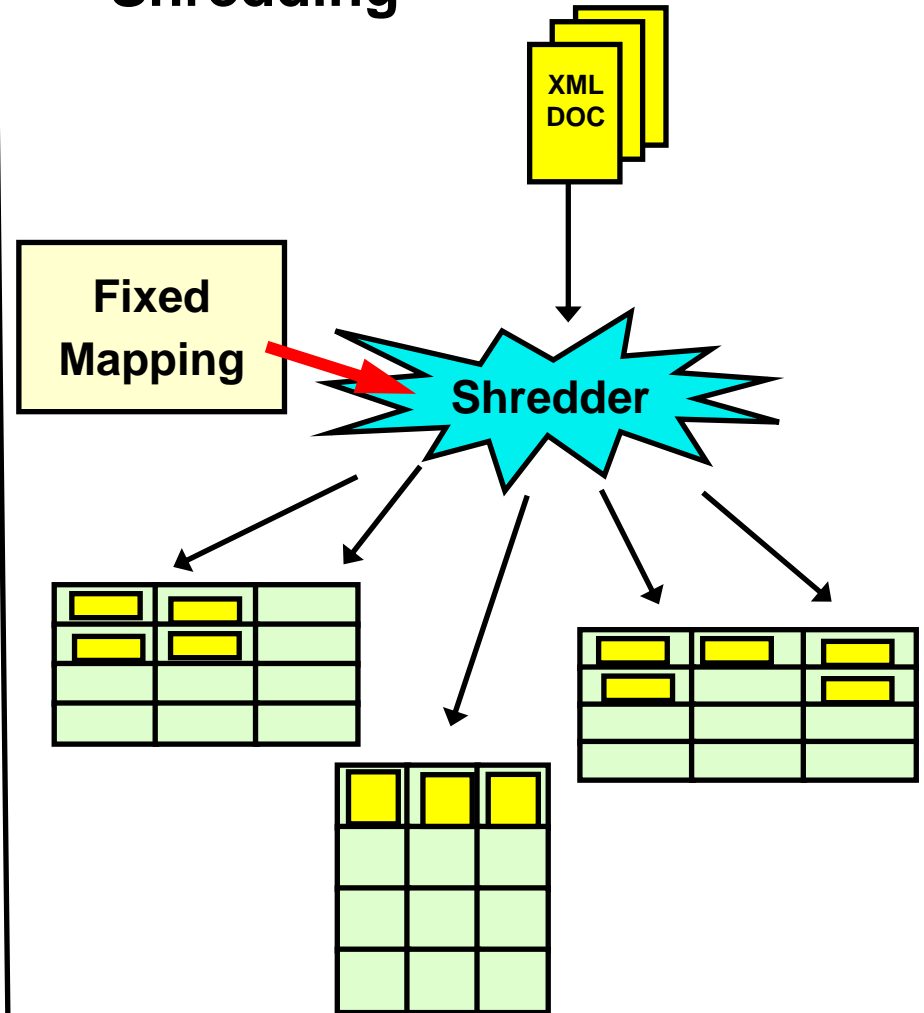
- Database XML nativi = DB2 9
 - Utilizza un modello dati gerarchico per archiviare ed elaborare i dati XML al suo interno
 - Non è richiesta una mappatura, nè l'archiviazione di testi/CLOB
 - Formato dello Storage = formato di processo

Database abilitati XML: due opzioni principali

CLOB/Varchar



Shredding



Shredding: Un caso semplice

```

<DEPARTMENT deptid="15" deptname="Sales">
  <EMPLOYEE>
    <EMPNO>10</EMPNO>
    <FIRSTNAME>CHRISTINE</FIRSTNAME>
    <LASTNAME>SMITH</LASTNAME>
    <PHONE>408-463-4963</PHONE>
    <SALARY>52750.00</SALARY>
  </EMPLOYEE>
  <EMPLOYEE>
    <EMPNO>27</EMPNO>
    <FIRSTNAME>MICHAEL</FIRSTNAME>
    <LASTNAME>THOMPSON</LASTNAME>
    <PHONE>406-463-1234</PHONE>
    <SALARY>41250.00</SALARY>
  </EMPLOYEE>
</DEPARTMENT>

```

Department

DEPTID	DEPTNAME
15	Sales

Employee

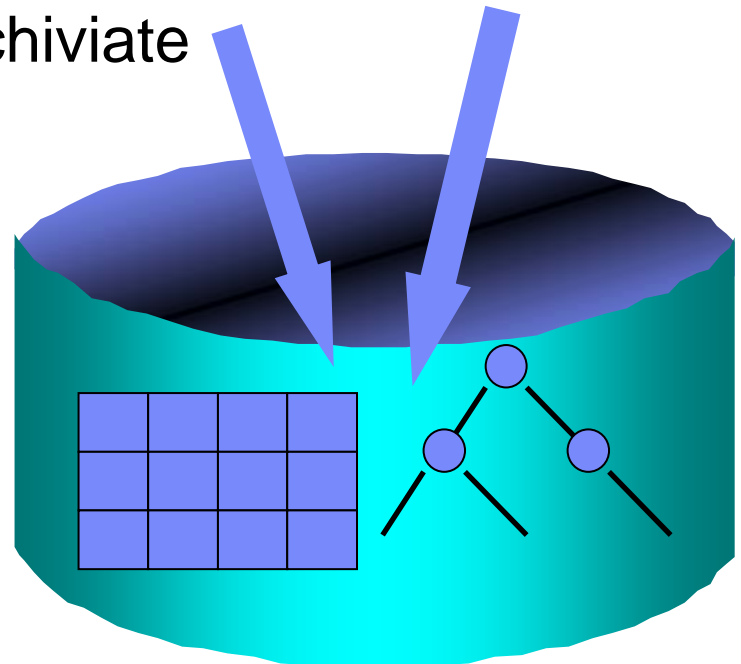
DEPTID	EMPNO	FIRSTNAME	LASTNAME	PHONE	SALARY
15	27	MICHAEL	THOMPSON	406-463-1234	41250
15	10	CHRISTINE	SMITH	408-463-4963	52750

Archiviazione XML nativa

- Devi trasformare XML nella logica del formato gerarchico (simile alla rappresentazione DOM dell'infoset XML)

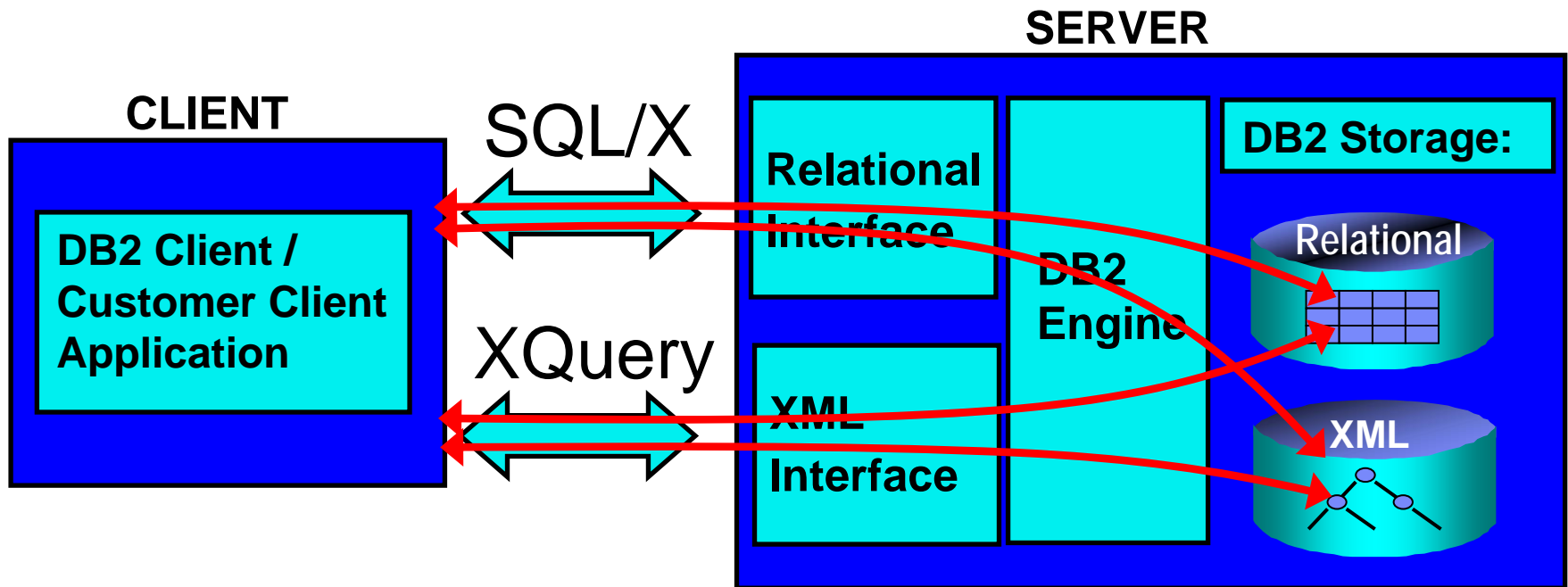
```
create table dept (deptID char(8), ..., deptdoc xml);
```

- Le colonne relazionali sono archiviate in modo relazionale (tabelle)
- Le colonne XML sono archiviate in modo nativo
- XML archiviato in UTF8



XML in DB2

- “Sembra” un relazionale e/o XML
- Caratteristiche SQL e piena funzionalità XML



Supporto XML puro... maggiori dettagli

- **XML puro verso XML nativo**
- **Dati XML per colonna**
 - create s1.t1 (c1 int, c2 xml)
- **Language bindings per il tipo XML nei linguaggi di programmazione**
 - cobol, c, java, etc..
- **Indici XML**

create ix1 on s1.t1(c2) generate keys using pattern '/dept/emp/@empno'
- **Un repository per schema/DTD XML**
- **Performance, scalabilità, e quant'altro ci si può attendere da un DBMS**

XPath

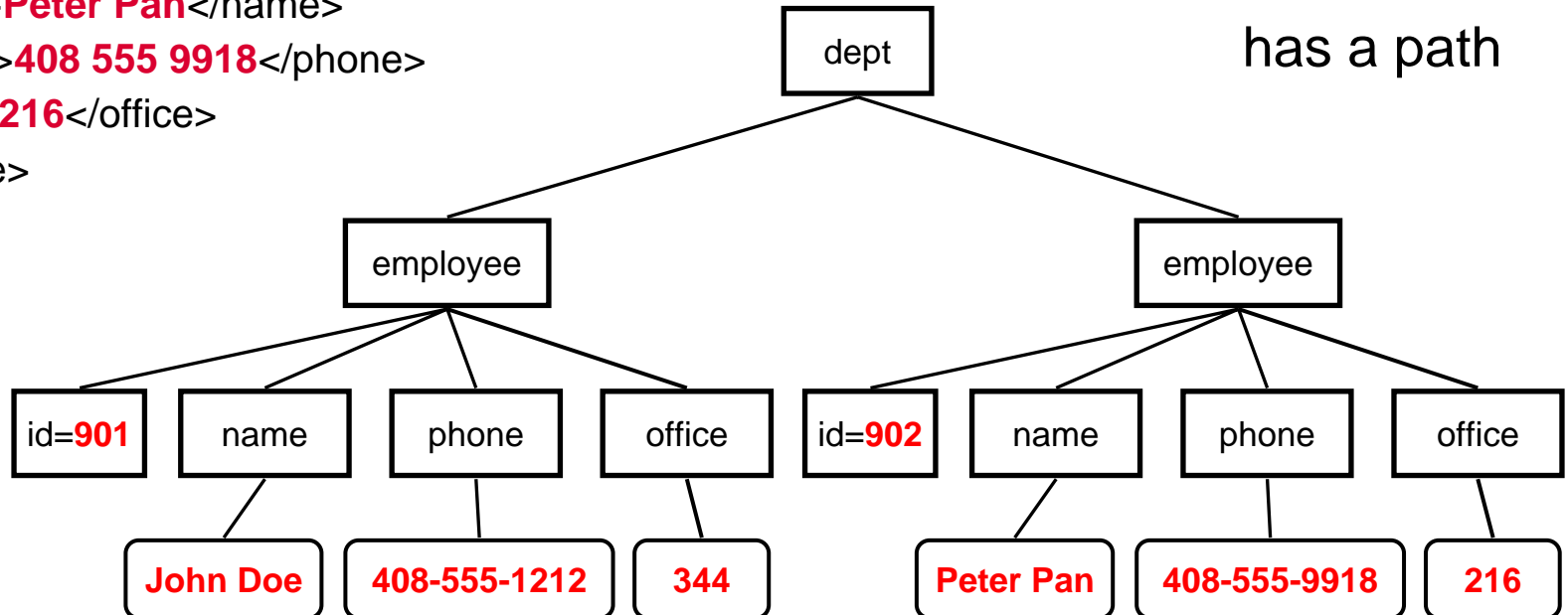
- ❑ XML Query Language
- ❑ Subset of XQuery & SQL/XML

```

<dept bldg="101">
  <employee id="901">
    <name>John Doe</name>
    <phone>408 555 1212</phone>
    <office>344</office>
  </employee>
  <employee id="902">
    <name>Peter Pan</name>
    <phone>408 555 9918</phone>
    <office>216</office>
  </employee>
</dept>
    
```

/
/dept
/dept/employee
/dept/employee/@id
/dept/employee/name
/dept/employee/phone
/dept/employee/office
(...)

Each node has a path



XQuery: The FLWOR Expression

- **FOR**: iterates through a sequence, bind variable to items
- **LET**: binds a variable to a sequence
- **WHERE**: eliminates items of the iteration
- **ORDER**: reorders items of the iteration
- **RETURN**: constructs query results



create table dept(deptID char(8), deptdoc xml);

```
for $d in db2-fn:xmlcolumn('dept.deptdoc')/dept
let $emp := $d//employee/name
where $d/@bldg > 95
order by $d/@bldg
return <EmpList>
      {$emp}
    </EmpList>
```

```
<dept bldg=101>
  <employee id=901>
    <name>John Doe</name>
    <phone>408 555 1212</phone>
    <office>344</office>
  </employee>
  <employee id=902>
    <name>Peter Pan</name>
    <phone>408 555 9918</phone>
    <office>216</office>
  </employee>
</dept>
```

XQuery embedded in SQL

```
select deptID,  
       xmlquery('for $i in $d/dept  
                let $j := $i//name  
                return $j' passing deptdoc as "d")  
from dept  
where deptID LIKE "PR%"  
and xmlexists('$d/dept[@bldg = 101]' passing deptdoc as "d")
```

SQL embedded in XQuery

```
xquery
for $y in
db2-fn:sqlquery
('select comments from items where srp > 100')/Comments/Comment
where $y/ResponseRequested='Yes'
return (
<action>
    {$y/ProductID
    $y/CustomerID
    $y/Message}
</action>
)
```

Oltre XML?

II DB2 Control Center

The screenshot displays the DB2 Control Center interface. On the left is the **Object Tree**, which shows a hierarchy of systems and databases. The **Contents Pane** in the center-right shows a list of tables for the selected database. The **Object Details Pane** at the bottom right provides specific information about the selected table, including its schema, creator, and column definitions.

Object Tree:

- Control Center
 - All Systems
 - TLBA22ME
 - TLBA23ME
 - RAULCHONG
 - Instances
 - DB2
 - Databases
 - MANUMTK
 - SAMPLE
 - Tables
 - Views
 - Aliases
 - Nicknames
 - Cache Objects
 - Triggers
 - Schemas
 - Indexes
 - Table Spaces
 - Event Monitors
 - Buffer Pools
 - Application Objects

Contents Pane:

Name	Schema	Tab...	Comment
EMP_ACT	DB2ADMIN	USERS...	
EMP_PHOTO	DB2ADMIN	USERS...	
EMP_RESUME	DB2ADMIN	USERS...	
EMPLOYEE	DB2ADMIN	USERS...	
EXPLAIN_ARGUMENT	DB2ADMIN	USERS...	
EXPLAIN_INSTANCE	DB2ADMIN	USERS...	

Object Details Pane - Table - EMPLOYEE

Schema : DB2ADMIN
 Creator : DB2ADMIN
 Columns : 14

Key	Name	Data type	
Key	EMPNO	CHARACTER	6
	FIRSTNME	VARCHAR	1;
	MIDINT	CHARACTER	1
	LASTNAME	VARCHAR	1;
	WORKDEPT	CHARACTER	3
	PHONENO	CHARACTER	4
	HIREDATE	DATE	4
	JOB	CHARACTER	8

II DB2 Developer Workbench

The screenshot displays the IBM DB2 Developer Workbench interface. The main window is titled "Data - My_XQuery.xqm - Eclipse Platform". The interface is divided into several panes:

- Left Pane:** Contains a "Data Pr..." view and a "Database..." view showing a connection to a "mysample" database.
- Documents Pane:** Shows the XML structure of the XQuery, including a root element "#document" containing an "items" element with multiple "item_tuple" children. Each "item_tuple" has attributes like "itemno", "descriptio", "offer...", "start_dat", "end_date", and "reserve".
- XQuery Editor:** The central pane shows the XQuery code with a graphical editor. It includes sections for:
 - For each Iterate over each item in sequence:** A table with columns "Item-variable-n...", "Sequence- node, expression, function, variable or literal", and "item_tuple" containing the path "/items/item_tuple".
 - Let Build a sequence:** A table with columns "Item-variable-n...", "Sequence- node, expression, function, variable or literal", and "ifvar" containing "If ...".
 - Where:** A table with columns "Operand 1", "Operator", "Operand 2", and "C...". It contains two rows:

Operand 1	Operator	Operand 2	C...
/items/item_tuple/end_...	>	"2005-08-26"	a...
/items/item_tuple/offer...	=	"Karl"	
 - Order By:** A table with columns "Value" and "Direction". It contains one row:

Value	Direction
/items/item_tuple/itemno	ascending
 - Return Build an XML fragment to be returned with each qualified iteration:** A list of elements: "/items/item_tuple", "new_element", and "concat(...)".
- Outline Pane:** Shows a hierarchical tree of the XQuery logic, including "For Logic", "For", "Let", "Conditional", "If", "where", "Condition>", "Condition=", "Order By", "Return", and "concat()".
- Bottom Pane:** Contains tabs for "Properties", "Tasks", "Problems", "Error Log", "Model Report", "Data Output", and "Bookmarks".

Gestione Autonoma

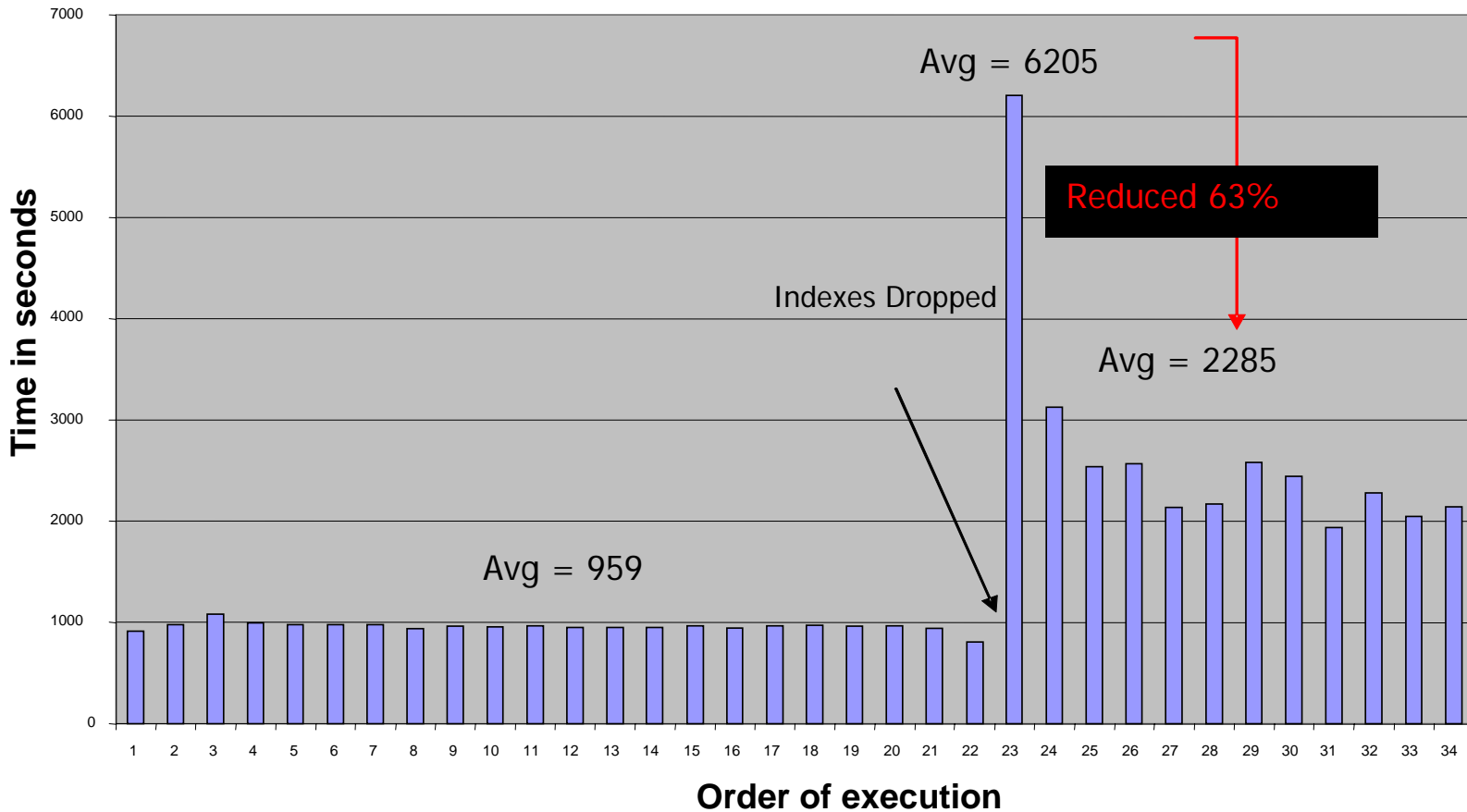
Meno skill, Meno risorse, Migliore utilizzo del sistema

- Viene fornito un Automated Expert Advice
 - ▶ Advisor per configurazione e Disegno
 - ▶ Health Monitor
- Automazione “Built-in”
 - ▶ On-demand Storage
 - ▶ Automated Maintenance
 - ▶ Ottimizzazione, Parallelismo e di più
- Setup e Configurazione
 - ▶ Configuration Assistant
 - ▶ Numerous Wizards

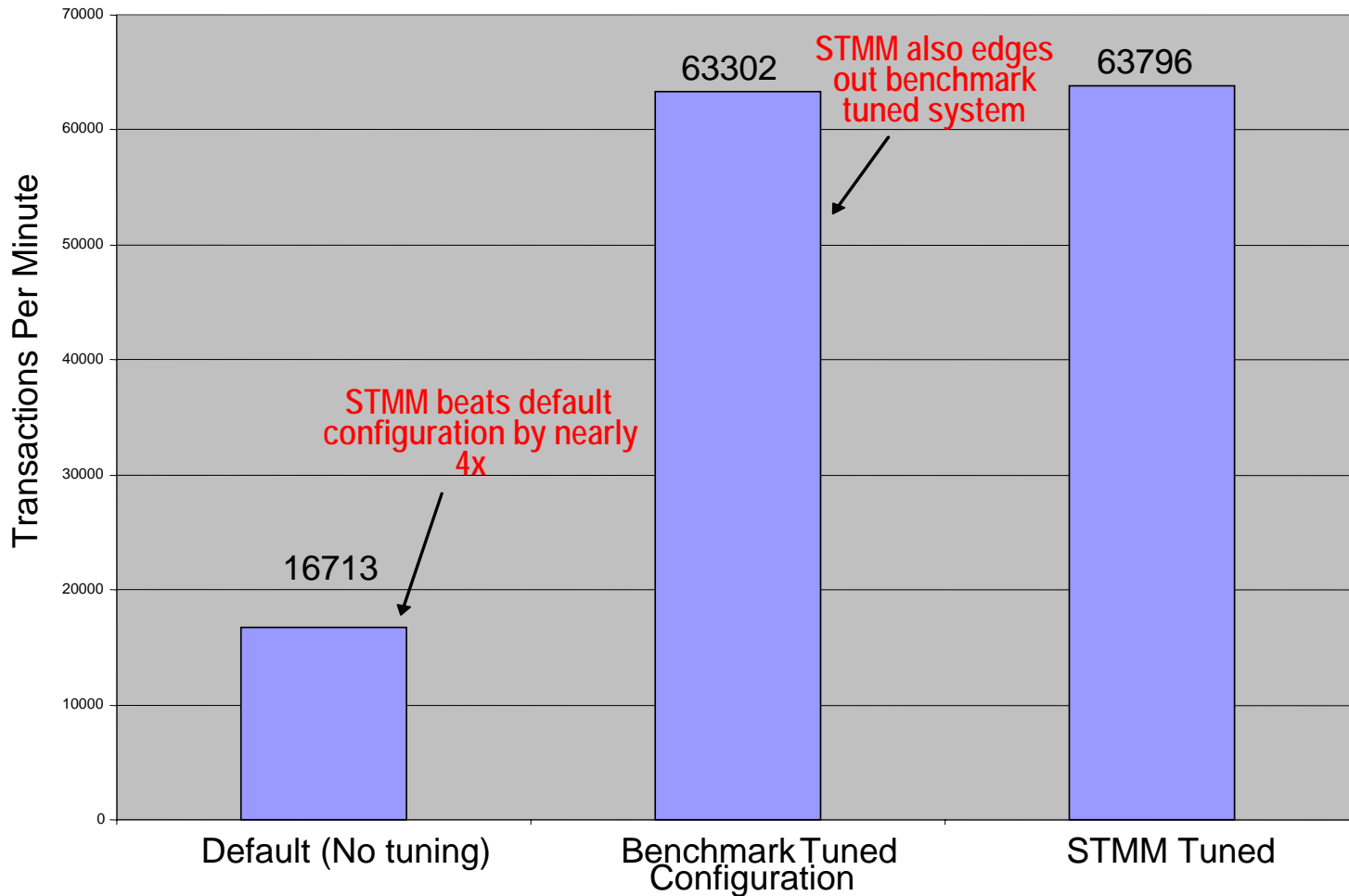


L' STMM in Azione – es: drop di un indice importante

TPCH Query 21 - After drop index - Average times for the 10 streams



L' STMM in Azione – Confronto tra diverse Configurazioni

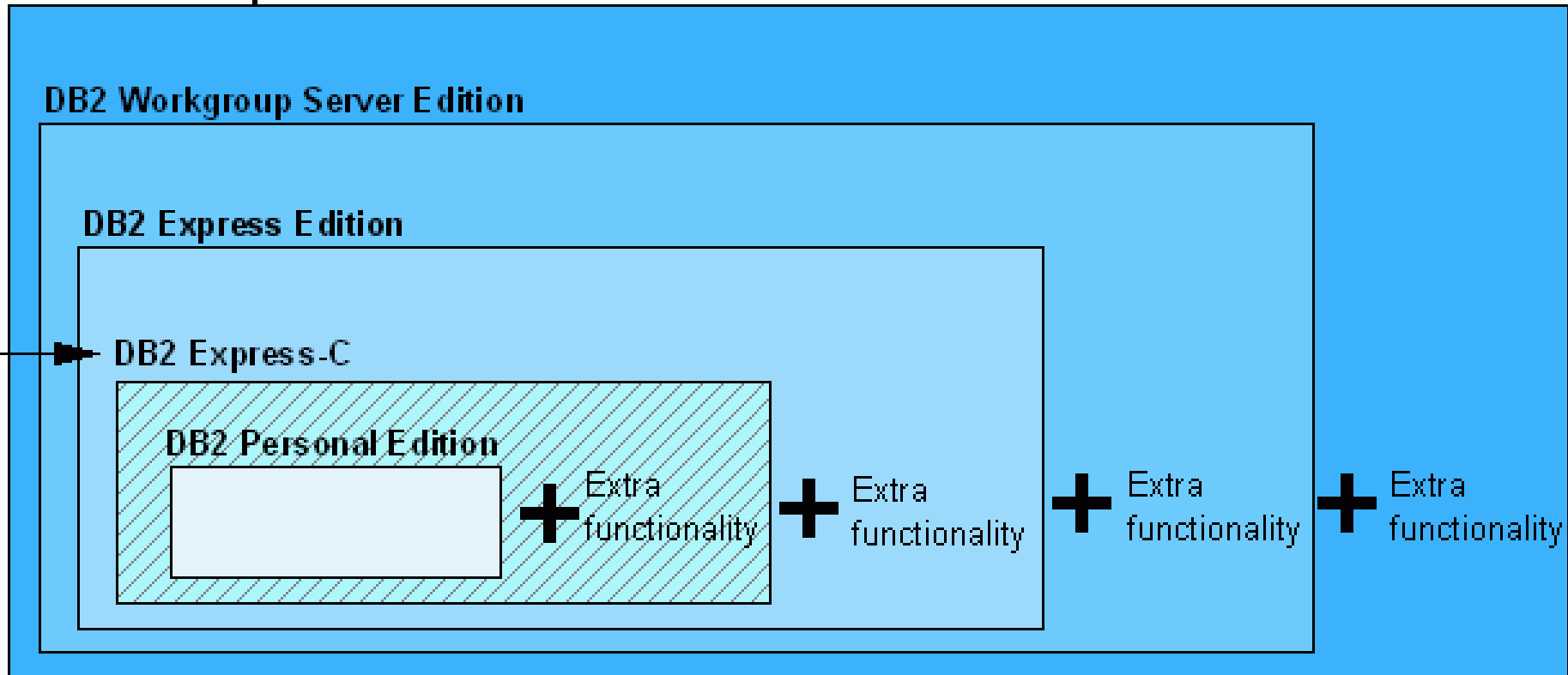


E molto altro
ancora ...

DB2 Express-C

Soluzioni DB2 Data Serving

DB2 UDB Enterprise Server Edition



DB2 Express-C

- DB2 Express-C V8.2.4
- DB2 Express-C 9



Annuncio del DB2 Express-C – 30 gennaio 2006



DB2 Express-C è:

- Una versione di DB2 Express per la comunità
- **Libero** per lo sviluppo, la messa in produzione, la distribuzione ... senza limiti!

Pronto in Produzione

- Database senza limiti
- Illimitato numero di istanze per server
- Nessun limite per gli utenti

Tecnologia Innovativa

- Stessa tecnologia di data server e di supporto alla programmazione di DB2 Express in un prodotto più piccolo
- DB2 Express-C 9 è già disponibile e il “pureXML” è incluso!

Comunità Sviluppatori

- Team di comunità dedicato DB2 Express-C
- Supporto gratuito online per la comunità degli sviluppatori
- Skill e applicazioni applicabili validi per tutte le edizioni di DB2

Libertà di sviluppo applicativo

- C/C++ (ODBC and Static SQL)
- JDBC and SQLJ
- Borland
- PHP
- Perl
- .Net languages
- OLE-DB
- ADO
- Web Services
- SQL
- MS Office: Excel, Access, Word







- PHP

- Perl




- .Net languages

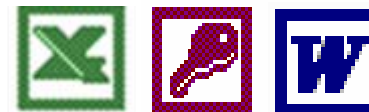
- OLE-DB




- ADO




- Web Services





- SQL

- MS Office: Excel, Access, Word

IBM® DB2 Universal Database™
 SQL Reference  
 for Cross-Platform Development

<http://www7b.software.ibm.com/dmdd/library/techarticle/0206sqlref/0206sqlref.html>

DB2 Express e DB2 Express-C: a voi la scelta

DB2 Express

Aligned to mid-market needs

Per processor or Per server/users
licenses orderable in Passport Advantage

12mo 24x7 support

Download footprint ~400 MB

Features include (for extra charge):
pureXML, MQT, MDC, query parallelism, HADR,
TSA, Online Reorg

DB2 Express-C

Aligned to mid-market needs and
developers, partners, academic communities
considering or using open source databases

Free

Free online community support

Download footprint ~300 MB

Features include:
pureXML

DB2 Express-C e altri data server gratuiti

	DB2 Express-C	MySQL Pro	Oracle XE	SQL Server Express
Platforms	Linux, Windows	Linux, Windows and selected UNIX	Linux, Windows	Windows only
Download	390MB	35MB (no tools)	150-190MB	64MB (no tools)
Memory limit	4GB	None	1GB	1GB
32/64 bit	32/64 bit	32	32	32
CPU limit	2 CPU dual core	None	1	1
DB size limit	None	None	4GB	4GB
APIs	C, JDBC, .NET, XML, PHP, Python, etc	C, JDBC, .NET, PHP, Python	C, JDBC, .NET, PHP, XML	.NET
Development Tools	Eclipse, VS .Net, Toad, DB2 DC, ...	None	HTML DB	VS .NET
Management	Extensive DB2 Suite (Control Center, Information Center, dozens of wizards, autonomic tools, ...)	NONE (tools can be found in online repositories but no INTEGRATION provided by MySQL)	Custom Web Based Tools	SQL Express Manager
Replication	Yes	Yes	Yes	Yes
Free Production / Redistribution	YES / YES	NO / NO (commercial grade version)	YES / YES	YES / YES
License Fee	None	None for OSS (but mandatory for commercial grade version)	None	None
Support	Forum only	Forum and fee-based	Forum only	Only with upgrade

Prova tu stesso: licenza MySQL GPL

MySQL AB :: MySQL Commercial License - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Mail Print

Address <http://www.mysql.com/company/legal/licensing/commercial-license.html> Go Links >>

Search Web Search

The world's most popular open source database [Register](#) Search

MySQL.com MySQL Network Developer Zone Partners Online Shop

Products Training Consulting Support OEM News & Events Customers Industries

Why MySQL? How to Buy

MySQL Commercial License

Overview Management Investors Jobs Legal Policies Contact us

The Commercial License is an agreement with MySQL AB for organizations that do not want to release their application source code. Commercially licensed customers get a commercially supported product with assurances from MySQL. Commercially licensed users are also free from the requirement of making their own application open source.

When your application is not licensed under either the GPL-compatible Free Software License as defined by the Free Software Foundation or approved by OSI, and you intend to or you may distribute MySQL software, you must first obtain a commercial license to the MySQL product.

Typical examples of MySQL distribution include:

- Selling software that includes MySQL to customers who install the software on their own machines.
- Selling software that requires customers to install MySQL themselves on their own machines.
- Building a hardware system that includes MySQL and selling that hardware system to customers for installation at their own locations.

Got a Question?

USA Toll Free: 1-866-697-7522
Worldwide: 1-208-514-4780
[Contact Us Online »](#)

Related pages:

- [Licensing Overview](#)
- [Licensing FAQ](#)
- [Open Source License](#)
- [Patent policy](#)

"The Core Certification Exam is hard, but very fair." — (Not everyone passes MySQL Certification exams) — January 4, 2003

Internet

Quale opportunità per voi?

Otto step verso il successo!

1. Visita di frequente la home page DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

Otto step verso il successo!



1. Visita di frequente la home page DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

Home page DB2 Express-C

www.ibm.com/db2/express

Step 1:

visita la home page
DB2 Express-C

www.ibm.com/db2/express

The screenshot shows a web browser window titled "DB2 Express-C Overview: Free to Develop, Deploy, Distribute - Microsoft Internet Ex...". The address bar shows the URL "http://www-306.ibm.com/software/data/db2/udb/db2express/". The page content includes a navigation menu with "Services & solutions", "Support & downloads", and "My account". The main heading is "DB2 Express-C" with the tagline "Free to Develop, Deploy, Distribute". Below this are tabs for "Home", "Get started", "Learn", "Migrate", "Partners", and "Contact us". A "News & Events" section lists items like "Your DB2 solutions" and "Featured community contributor". A large banner for "DB2 Viper | test drive" features a car image and the text "Put us through your most challenging road course." with a "Learn More" link. The page is divided into "News" and "Events" columns. The "News" column contains two items: "Release of DB2 Viper test drive for DB2 Express-C!" and "DB2 Viper test drive is now available!". The "Events" column contains "Upcoming webcast: Enabling XML and SOA Applications with DB2 Viper (April 19th)" and "Replay Webinar: DB2 Viper Overview - Chat with the Lab (April 6th)". On the right side, there are several promotional boxes: "Information Management software" with a logo, "Download DB2 Express-C", "DB2 Express Online Forum", "Sign Up for Our Mailing List", and "Upgrade to DB2 Express" with a "Buy online" button and links to "DB2 UDB Express Edition Details" and "DB2 UDB Express Edition V8.2 Spec Sheet".

DB2 Express-C Overview: Free to Develop, Deploy, Distribute - Microsoft Internet Ex...

File Edit View Favorites Tools Help

Address <http://www-306.ibm.com/software/data/db2/udb/db2express/> Go

Services & solutions | Support & downloads | My account

Software > IBM Information Management > DB2 Product Family

DB2 Express-C

Free to Develop, Deploy, Distribute

Home | Get started | Learn | Migrate | Partners | Contact us

- News & Events
 - You asked?
 - Looking for DB2 Express?
- Your DB2 solutions
- Featured community contributor

DB2 Viper | test drive
Put us through your most challenging road course.
→ Learn More

News

- ➔ **Release of DB2 Viper test drive for DB2 Express-C!**
IBM is pleased to announce the availability of Viper test drive images for DB2 Express-C. [Download](#) the new images today! As always, please feel free to report any feedback, issues or questions to our [forum](#).
- ➔ **DB2 Viper test drive is now available!**
The new DB2 Viper product is a leading-edge hybrid data server that now supports pure XML storage, in addition to relational

Events

- ➔ **Upcoming webcast: Enabling XML and SOA Applications with DB2 Viper (April 19th)**
Learn about how to embrace Service Oriented Architectures (SOA) to improve business agility and deliver information on demand through XML application development on DB2 Viper.
- ➔ **Replay Webinar: DB2 Viper Overview - Chat with the Lab (April 6th)**
Join Sal Vella, VP of DB2 Development, and Peter Kohlmann, Senior DB2 Product

Information Management software

Download DB2 Express-C

DB2 Express Online Forum

Sign Up for Our Mailing List

Upgrade to DB2 Express

Buy online

→ DB2 UDB Express Edition Details

DB2 UDB Express Edition V8.2 Spec Sheet

→ Ask Me about DB2

Internet

Otto step verso il successo!

1. Visita di frequente la home page DB2 Express-C: www.ibm.com/db2/express
-  2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

- What is DB2 Express-C?
- Frequently Asked Questions (FAQs)
- **Download DB2 Express-C**
- Free Demo Discovery DVD



Download DB2 Express-C

- ↓ Viper test drive images
- ↓ V8.2.4 images

Download Viper images

Viper is the code name for the upcoming release of DB2. DB2 Viper is a leading edge hybrid data server capable of supporting both relational and pure XML storage. It also has tons of new features that increase performance and scalability for both XML and relational data.

The DB2 Express-C Viper images are available with a "Try and Buy" license which lasts for 90 days. To get started with DB2 Express-C Viper, [read this article](#). For additional Viper test drive tools, downloads and information, visit the [DB2 Viper web site](#).

Download DB2 Viper images

Linux Platforms	Size	DB2 Express-C Download
NEW 32-bit AMD and Intel systems (x86), 2.6 kernel md5: 2267f8bdfd0e0b9ff403d6d8de5b7a68	269MB	↓ Download
NEW AMD64 and Intel(R) EM64T systems (x86_64), 2.6 kernel md5: 3a917d7e7a0a6476340f9fba10a7f1ee	285MB	↓ Download
NEW POWER™ (iSeries™ and pSeries®) systems md5: 5fe4ac04fbc026946edcebaa8a5b801c	273MB	↓ Download
Microsoft Windows Platforms	Size	DB2 Express-C

Download DB2 Express-C

DB2 Express Online Forum

Sign Up for Our Mailing List

Upgrade to DB2 Express

→ Buy online

→ DB2 UDB Express Edition Details

DB2 UDB Express Edition V8.2 Spec Sheet

→ Ask Me about DB2 Express

Featured items

→ Replay Webcast: Unleashing Information On Demand using XML and DB2 Viper

→ Replay Webcast: Power solutions with DB2 Express

→ Request the DB2

Step 2:

Scarica e Installa DB2 Express-C 9

Download DB2 Express-C

Otto step verso il successo!

1. Visita di frequente la home page
DB2 Express-C www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
-  3. **Impara DB2 Express-C**
4. Partecipa al Forum DB2 Express-C
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

Step 3:

Impara DB2 Express-C

IBM Academic Initiative VMware Image sotto "Learn" Tab

File Edit View Favorites Tools Help Links >>

extract the image file into a folder.

DB2 Express-C on VMware images				
Image Name	Software included	Description	Download	Document-ation
SUSE Base (Viper)	- SUSE Linux Enterprise Server 9 (SLES 9) - DB2 Express-C V9.0 test drive	Explore and leverage the capabilities of the new DB2 Express-C Viper test drive as a foundation from which to build your applications	Download Size: 1.2GB (md5sum is f2485bf83894950358416e6f640dc5e5)	PDF
SUSE Base	- SUSE Linux Enterprise Server 9 (SLES 9) - DB2 Express-C V8.2	Use this image to evaluate DB2 Express-C on a Linux environment as a foundation from which to build your applications	Download Size: 1.10GB (md5sum is 8f822938c779fc847d87bdfed63de2a1)	PDF
Ubuntu Base	- Ubuntu 5.10 - DB2 Express-C V8.2	Ubuntu 5.10 is the newest Linux operating system supported with DB2 Express-C. As with the SUSE Base image, use this image to evaluate DB2 Express-C or as the foundation to build your applications	Download Size: 1.18GB (md5sum is 761b8c77794c52aa6d1e74a2d2b57b7f)	PDF
IBM Academic Initiative	- Open-SUSE Linux 10 - DB2 Express-C V8.2 - DB2 Detective Game	If you are a student or a teacher, use this image to get you started on DB2 Express-C. The image includes the DB2 Detective game to make learning an interactive experience.	Download Size: 1.19GB (md5sum is 0d389e41144b6677c13802ab3e1a1ba3)	PDF

Featured items

- [Replay Webcast: Unleashing Information On Demand using XML and DB2 Viper](#)
- [Replay Webcast: Power solutions with DB2 Express](#)
- [Request the DB2 Express Discovery Kit \(DVD\)](#)
- [Learn more about DB2 Viper!](#)

Developer highlights

- [PHP - Zend Core for IBM](#)
- [DB2 Add-Ins for Visual Studio 2005](#)
- [WAS Community Edition](#)
- [Tutorial: Develop Java apps with DB2 Express-C, WAS CE and Eclipse IDE](#)

Other communities

- [developerWorks DB2](#)
- [PartnerWorld](#)
- [Academic Initiative](#)
- [Virtual Innovation Center](#)
- [DB2 Migrate Now!](#)

Internet

Otto step verso il successo!

1. Visita di frequente la home page
DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
-  4. **Partecipa al Forum DB2 Express-C forum**
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

IBM DB2 Express Forum RSS

Search for within IBM DB2 Express Forum Go

My developerWorks

Welcome, **Guest**

[→ Sign in or register](#)

This forum is a place to exchange ideas and share solutions with your peers in the IBM DB2 Express community. Active participation in the forum will allow all the participants to get the maximum return. All information is for community discussion and should not be considered IBM support.

Please note that the existing [DB2 UDB Express newsgroup](#) will be phased out in the near future. You are encouraged to participate in this new forum instead.

Please familiarize yourself with the [developerWorks Community Guidelines](#) before posting to the forum.

[Post new topic](#) [Watch forum](#) [Watch list](#) [Forum settings](#) [Help](#)

Page 1 | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | 358 topics with 1,060 replies, 24 pages total

Topic	Author	Views	Replies	Last post
Using DB2 Express via ADO	flozzy1234	6	1	2006 May 22 09:04 AM
Error Running Batch Script	Anacron	16	0	2006 May 22 12:25 AM
error about the jdbc type 4 driver for DB 2 v8.2 when I created a new datapool in websphere	cs213044	53	3	2006 May 21 02:32 PM
db2 Control Center won't load on SuSE 10.0....	UTiunkie	127	3	2006 May 21 01:47 PM
Upgrade instructions to DB2 Workgroup from DB2 Express-C	AldonPM	71	2	2006 May 21 01:33 PM
Problems setting up TCP/IP with DB2 Express-C	philip.weinke@ddd.de	275	11	2006 May 20 09:36 AM
Ruby on Rails	chris.astall	1,309	5	2006 May 19 10:36 AM
SQL1092N When trying to create sample database in windows	skhusal	52	1	2006 May 18 07:54 PM

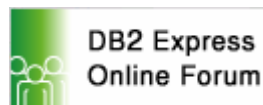
[DB2 Express-C on SuSE 10.0... 274 1 2006 May 18 10:11 AM](#)



Step 4:

Partecipa al Forum

Fare click su questa icona dalla home page



Otto step verso il successo!

1. Visita di frequente la home page
DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C forum
-  5. **Scrivi applicazioni “furbe” con DB2 Express-C**
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

Step 5:

Scrivi applicazioni "furbe" con DB2 Express-C

Perchè aspettare? Se puoi diventare il prossimo Google ora?

The screenshot shows the xfy.com website in a browser window. The address bar displays "http://www.xfy.com - xfy.com - The Home of xfy Technology - Microsoft I...". The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The website's navigation menu contains "Why xfy?", "Products", "Support", and "News & Events".

The main content area features a diagram of the xfy XML application platform. On the left, the xfy logo is accompanied by the text "The Native XML Application Platform". The central diagram consists of several layers: "ERP Package" at the top, followed by "Service Oriented Architecture", a central purple box labeled "Reliability", and "XML" to its right. Below these are three application categories: "Unique User Application", "Office Suite Extension", and "WEB Base Application", all contained within a larger "Office Suite" box at the bottom. A purple circle on the right contains the text "Why xfy?". A "Replay" button is located in the bottom right corner of this section.

The "Featuring Products" section highlights a "DB2 Solution" with a play button icon and the text "xfy Enterprise Solution Plus for DB2 Viper". Below this, it states "Every business is unique. Do you treat each customer uniquely? They are unique because their products and services are unique".

The browser's status bar at the bottom shows "Done" and "Internet".

Otto step verso il successo!

1. Visita di frequente la home page
DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa il DB2 Express-C 9
3. Impara il DB2 Express-C
4. Partecipa al Forum DB2 Express-C
5. Scrivi applicazioni “furbe” con DB2 Express-C
-  6. **Diventa un Business Partner IBM**
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador

Step 6:

Diventa un
Business
Partner IBM

http://www-306.ibm.com - DB2 Express-C: Partners List by category - Microsoft Int...

File Edit View Favorites Tools Help Links >>

DB2 Express-C

Free to Develop, Deploy, Distribute


Home Get started Learn Migrate **Partners** Contact us

- **Partners by category**
 - Partners A-Z
 - Partner solutions
- FAQs for partners
- Supported Linux distros

Partners List

Welcome to the DB2 Express Partner page.

Many third-party companies provide services and applications that compliment and expand the benefits of DB2 UDB Express. Here you'll find more about these providers and their solutions and how they can help you meet client needs, shape a more profitable business and achieve your goals.

 Business partners must register for free redistribution of DB2 Express-C with their products and applications.

What Business Partners say about DB2 Express

- Platform Providers
- Industry Solutions
- Tools
- Development Tools
- Consulting
- SOA

Show descriptions | Hide descriptions

Platform Providers

- AMD
- Intel
- Mandriva
- Nitix

Information Management software



Download DB2 Express-C

DB2 Express Online Forum

Sign Up for Our Mailing List

Upgrade to DB2 Express

Buy online

→ DB2 UDB Express Edition Details

 DB2 UDB Express Edition V8.2 Spec Sheet

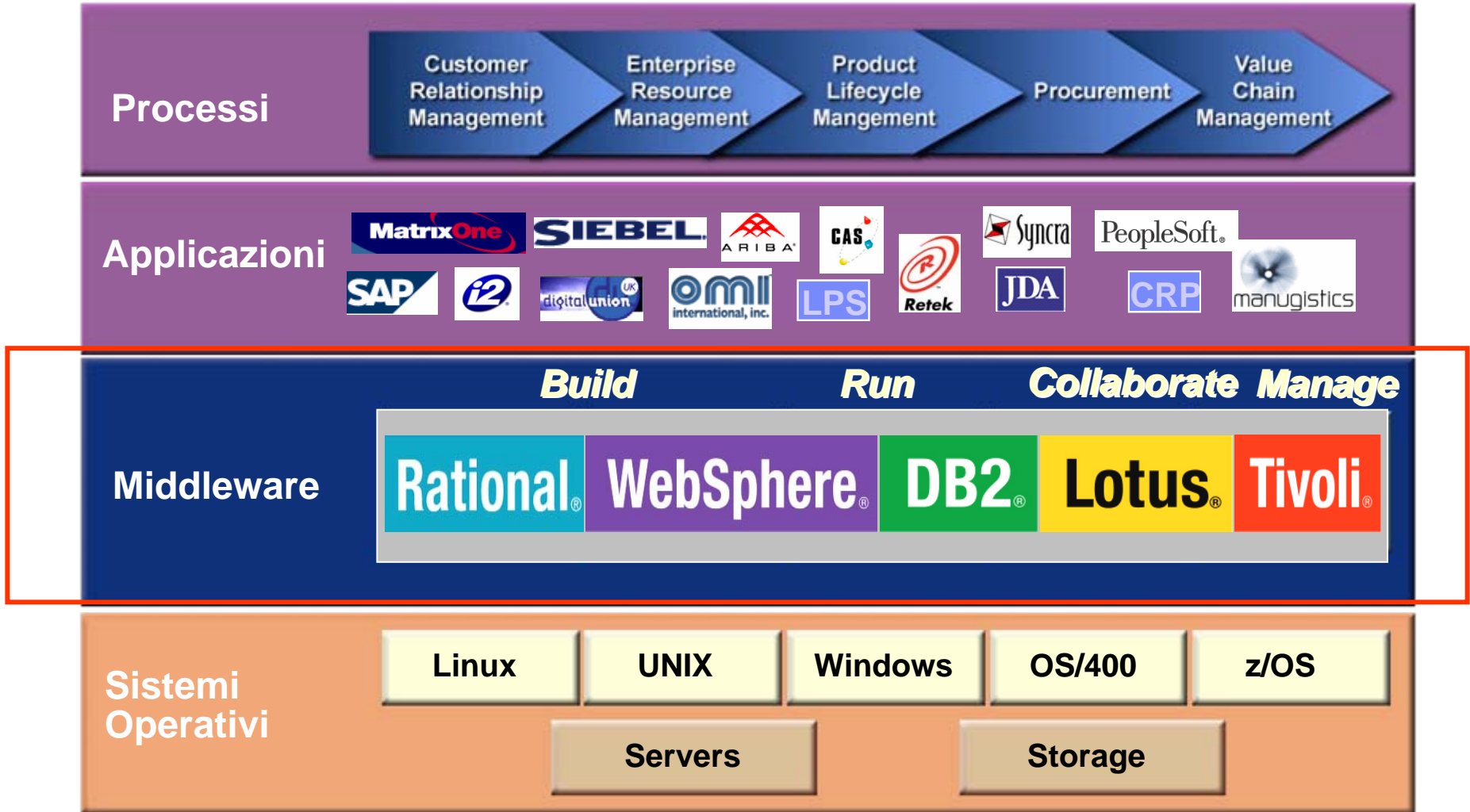
→ Ask Me about DB2 Express

Featured items

→ Replay Webcast: Unleashing Information On Demand using XML

Internet

Middleware: il nostro business nel software



Una comunità di partner in continua crescita



We are looking forward to embedding the no-license DB2 Express-C in our applications for small retail operations. This will help us keep our costs down and compete more effectively in the SMB market. We can apply the same database technology across our whole platform at no cost, which will lead to new opportunities for selling support

-- Janez Uplaznik, General Manager of Mikropis

“At Quest we believe in the value of building a strong, vibrant community around database technologies. By delivering a free version of DB2 Express-C, IBM is ensuring a rapid adoption of the DB2 technologies and further expanding the DB2 application development and database administration communities. As a leading provider of development and administration tools for DB2 databases, Quest is delighted to have an opportunity to distribute DB2 Express-C as part of Quest Database Solution offerings. We believe, by providing DB2 product as an integral part of the Quest solutions for DB2, our customers will enjoy a greatly simplified evaluation and deployment process”

-- **Billy Bosworth, Director Product Management, Database Solutions of Quest Software**



“By delivering DB2 Express-C, IBM is making it easy for ActiveGrid customers building service-oriented applications on the LAMP stack to take advantage of the enterprise-level performance, reliability and support of DB2 with no license fee.”

-- *Peter Yared, Founder and CEO of ActiveGrid, Inc*

Una comunità di partner in continua crescita



"The launch of IBM's DB2 Express-C under a free licence is a bold positive move. It brings a proven, rock solid , and flexible database to the Ubuntu, and hence to the Debian ecosystem. With no restrictive licencing to cause concern, it further strengthens DB2's proposition to businesses choosing Ubuntu."

- Mark Shuttleworth, Ubuntu Linux founder

"Zend Technologies creates application development and deployment products. We have tightly integrated the no-cost DB2 Express server into our popular Zend Core for IBM product for the PHP community. The new optional support offering available for DB2 Express closely aligns with many of our customers' needs to have access to powerful database features available in DB2 Express. In addition, our PHP-based solutions efficiently leverage the native XML functionality of DB2 Express."



- Mark de Visser, Chief Marketing Officer, Zend Technologies, Inc.

Una comunità di partner in continua crescita

"Power, flexibility, and openness are some of the best qualities that Linux has to offer. We at Mandriva are very excited about DB2 Express-C being offered for free on a Mandriva Linux distribution. With DB2 Express-C, IBM brings a full-function and enterprise-ready relational database on our Linux platform at no charge."

- Klara Mika , ISV Manager, Mandriva S.A.



Novell.

"We at Novell are excited about the launch of IBM's no license DB2 Express-C. It brings a powerful, flexible, and proven production ready database to our Linux platform - with no artificial limitations or license fees to worry about. IBM has always been a big supporter of Linux and open source developer community - and this release of a no-license DB2 Express is further proof in this regard."

- Hal Bennet, Vice President, Business Development, Novell

+ Many Independent Developers, and hopefully you also !!

Una comunità di partner in continua crescita

"We at AISA have been using DB2 databases for the last seven years. As a provider of Dealer Automation Systems to leading automotive manufacturers AISA relies demands the highest level of availability, scalability and performance from the relational databases. And this is what DB2 products deliver. With the DB2 systems AISA is able to accommodate the needs of smallest automotive dealers on a very strict budget, larger dealers with unique performance requirements and the needs of national and international distributors whose systems span national borders and need to accommodate multiple national languages, operating system and hardware platforms. We are delighted that IBM is realising the new free version of DB2 Express - C. We believe that this will greatly accelerate adoption of the DB2 technologies in emerging markets and will allow AISA to bring our products to new markets beyond the borders of Russia."

- Ivan Shelkovy, CEO AISA



"The newly launched DB2 Express-C from IBM is an ideal complement to the AMD Opteron™ processor family and is designed to take advantage of AMD's dual-core and AMD PowerNow!™ technologies, helping provide small and medium-size businesses with a production-ready database solution that is scalable on demand. IBM's DB2 Express-C offering complements the AMD Opteron processor value proposition of industry-leading price-to-performance within a total solution package. AMD welcomes the launch of DB2 Express-C and looks forward to developing joint solutions for our customers on this platform."

- Terri Hall, Vice President, Software Alliances, Microprocessor Solutions Sector, AMD

Una comunità di partner in continua crescita



"Business Objects and IBM have worked closely to develop effective business intelligence (BI) solutions that offer maximum scalability and reliability for information on demand. This new release of IBM DB2 Express-C continues our strong relationship by providing organizations the power of DB2 in a flexible, free package that is ideal for our enterprise customers looking to develop BI proof of concepts that will smoothly transition to enterprise deployments. It will also be a compelling choice for our mid-market customers looking for a solution that will scale with their business needs."

- Jon Dorrington, VP Alliances, Business Objects

"I believe that DB2 Express-C offering provides huge value to our customers. It makes available at no cost, IBM's leading edge information management tool, DB2 Universal Database on Linux and Windows. DB2 Express-c is a great solution for development, academic, ISVs and small production environments. Also, for anyone considering an open source database, DB2 Express-c is a much more attractive solution, offering more feature and function than any other database. As an IBM Business Partner with very strong skills in DB2 and Data Management, we are excited about the fact that we can now provide our customers with DB2 Express-C and then guide them on their implementation and exploitation efforts."

- James Sobiesky, CEO Fourth Millennium Technologies



DB2 Express runs across multiple platforms, and is optimized to run on the latest Intel® architecture-based platforms, including dual core platforms. DB2 Express will leverage this new technology without any technical or licensing changes.

Una comunità di partner in continua crescita

"Working with IBM and IBM DB2 application developers, we can create a value proposition where there is no rationale reason for any SMB customer that needs to run an application that can use DB2 for its database not to run DB2. Supported by IBM, DB2 Express-C is everything the SMB customer needs: easily deployable, affordable, scalable, stable, and untouchable with respect to price performance."

- Ozzy Papic, President and CEO of Net Integration Technologies



NET INTEGRATION TECHNOLOGIES INC.



"As a provider of supply chain optimization solutions to the leading retailers, we at Retalon know a value of a "good deal". IBM DB2 Express-C is a great deal! As an integrated database in the Retalon Fortune supply chain analytical platform, IBM DB2 Express-C provides us with an opportunity to quickly demonstrate the value of the Retalon solution to our customers. It greatly simplifies our "Proof of Value" program by removing any need for procuring software. At the same time it responds to our customers' demands for a highly scalable, high performing database platform from IBM, the leader in the industry."

- Serge Savchenko, Vice President Sales, Retalon Inc.

Otto step verso il successo!

1. Visita di frequente la home page DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C forum
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
-  7. **Scrivi articoli/tutorial/white paper/libri**
8. Diventa un DB2 student ambassador

Step 7:

Scrivi articoli, tutorial, libri

E' facile iniziare:

1. Individua una necessità: Forum
2. Scrivi un articolo per questa necessità
3. Ripeti questo processo
4. Raccogli gli articoli in un libro

The screenshot shows a web browser window with the following content:

- Browser Title:** DB2 Version 8 Connectivity Cheat Sheet - Microsoft Internet Explorer
- Address Bar:** http://www-128.ibm.com/developerworks/db2/library/techarticle/0301chong/0301chong2.html
- Page Header:** Country/region [select] | Terms of use
- Search:** All of dW [dropdown] [input] [Search button]
- Navigation:** Services & solutions | Support & downloads | My account
- Breadcrumbs:** developerWorks > Information Management >
- Article Title:** DB2 Version 8 Connectivity Cheat Sheet
- Level:** Introductory
- Author:** Raul Chong (rfchong@ca.ibm.com), Database consultant, IBM
- Date:** 23 Jan 2003
- Document options:**
 - Print this page
 - E-mail this page
- Free software for rapid results:**
 - Kick-start your Java apps
- Rate this page:**
 - Help us improve this content
- Text:**

Newly updated with iSeries connectivity information! For those who like to use commands instead of GUI tools, this article tells you how to get your clients connected to DB2 servers, either on distributed systems or OS/390, using DB2 commands. It includes a cheat sheet that you can print off and keep handy to make the process a breeze.

© 2003 International Business Machines Corporation. All rights reserved.

Introduction

The purpose of this article is to provide quick and easy instructions for setting up connectivity between IBM ® DB2 ® Universal Database™ for Linux, UNIX ® and Windows ® V8 clients and DB2 servers using DB2 commands. The DB2 servers can be -- for this article -- DB2 UDB for Linux, UNIX and Windows version 8, DB2 UDB for z/OS™ version 8 or DB2 for iSeries ® 5.2. Note that though we are using the latest versions of DB2 UDB in the different platforms, the same instructions can apply to other DB2 UDB versions.

In case you've followed all the instructions and the connection isn't working, I've included some things to check to help you determine what the problem is as well as typical error messages.

The Configuration Assistant (CA) GUI tool, formerly known as the Client Configuration Assistant (CCA), can be used on either Windows or UNIX platforms as an easy graphical interface for establishing connectivity. However, if you know the actual DB2 commands that are executed under the covers by the CA Tool, you will have a better understanding of what is required when connecting DB2 clients to DB2 servers. Moreover, the commands can always be saved in a script that can be easily distributed to any DB2 client that requires the same connectivity setup. For completeness, however, I will include the steps to follow using the Configuration Assistant in the last section of this article.

File Edit View Favorites Tools Help

Links »

amazon.com

Your Store

Books

See All 33 Product Categories

Your Account |

Advanced Search

Browse Subjects

Bestsellers

The New York Times® Best Sellers

Magazines

Corporate Accounts

Search Books

GO



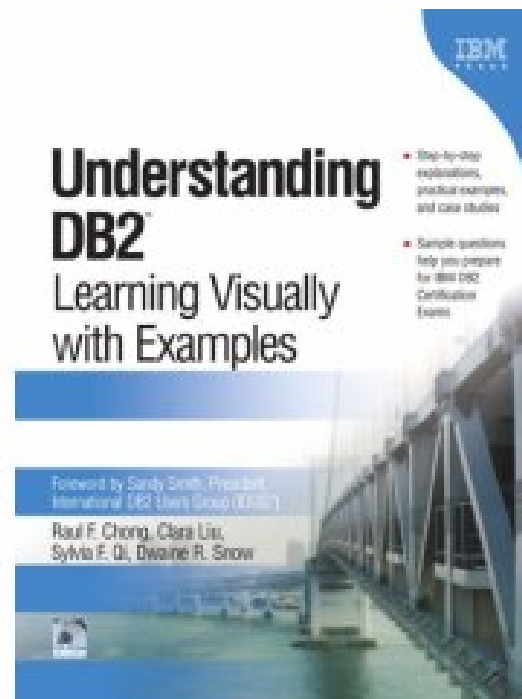
Find

Join [Amazon Prime](#) and ship Two-Day for free and Overnight for \$3.99.
 Already a member? [Sign in](#).

Step 7:

Scrivi articoli,
tutorial, libri

apostilando.com



Understanding DB2(R) : Learning Visually with Examples (Hardcover)

by [Raul F. Chong](#), [Clara Liu](#), [Sylvia F. Qi](#), [Dwaine R. Snow](#)

List Price: ~~\$59.99~~

Price: **\$37.79** & this item ships for **FREE with Super Saver Shipping**. [Details](#)

You Save: **\$22.20 (37%)**

Availability: Usually ships within 24 hours. Ships from and sold by Amazon.com.

Otto step verso il successo!

1. Visita di frequente la home page
DB2 Express-C: www.ibm.com/db2/express
2. Scarica e Installa DB2 Express-C 9
3. Impara DB2 Express-C
4. Partecipa al Forum DB2 Express-C forum
5. Scrivi applicazioni “furbe” con DB2 Express-C
6. Diventa un Business Partner IBM
7. Scrivi articoli/tutorial/white paper/libri
8. Diventa un DB2 student ambassador



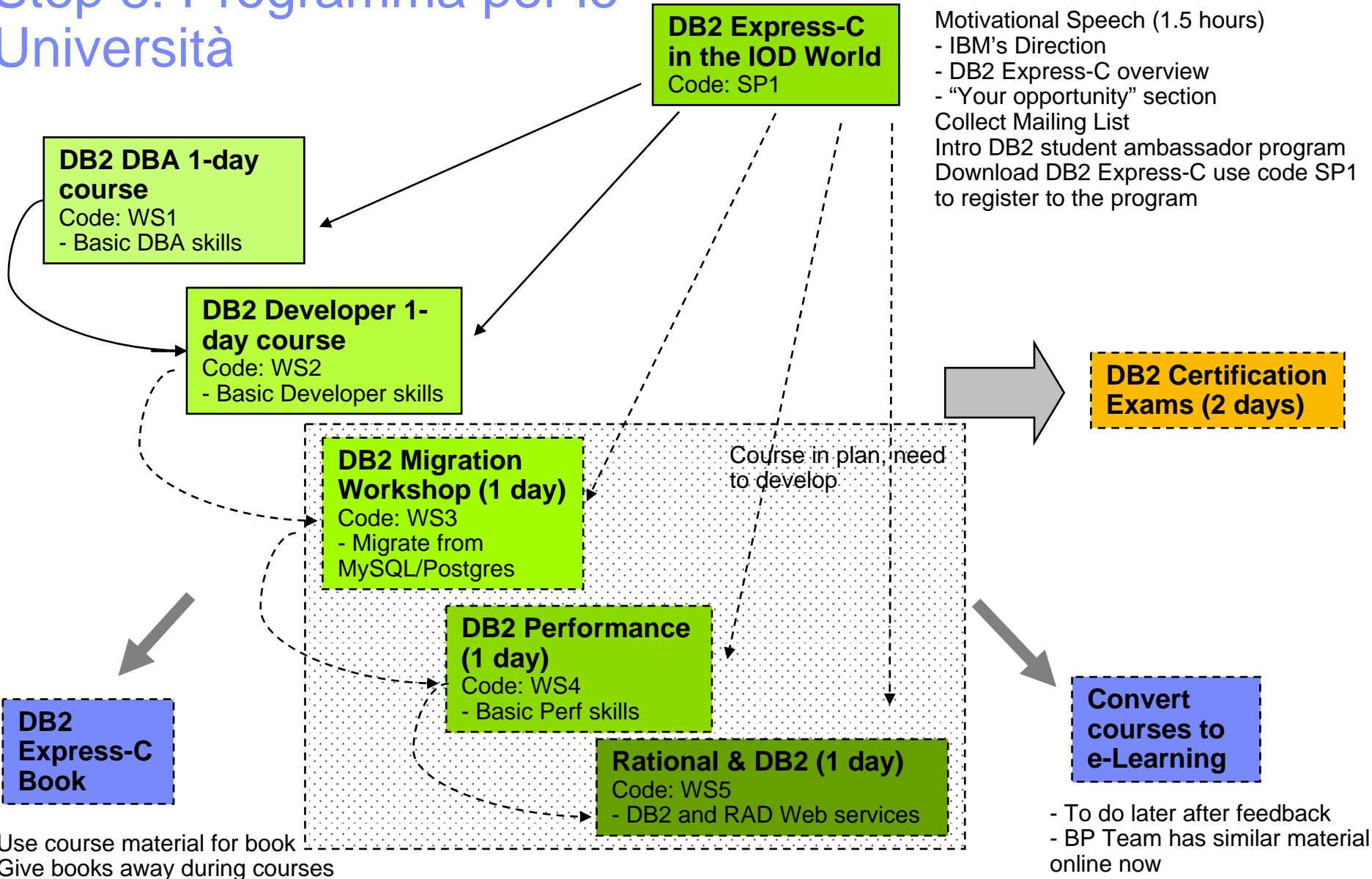


DB2 Express – C Programma per le Università

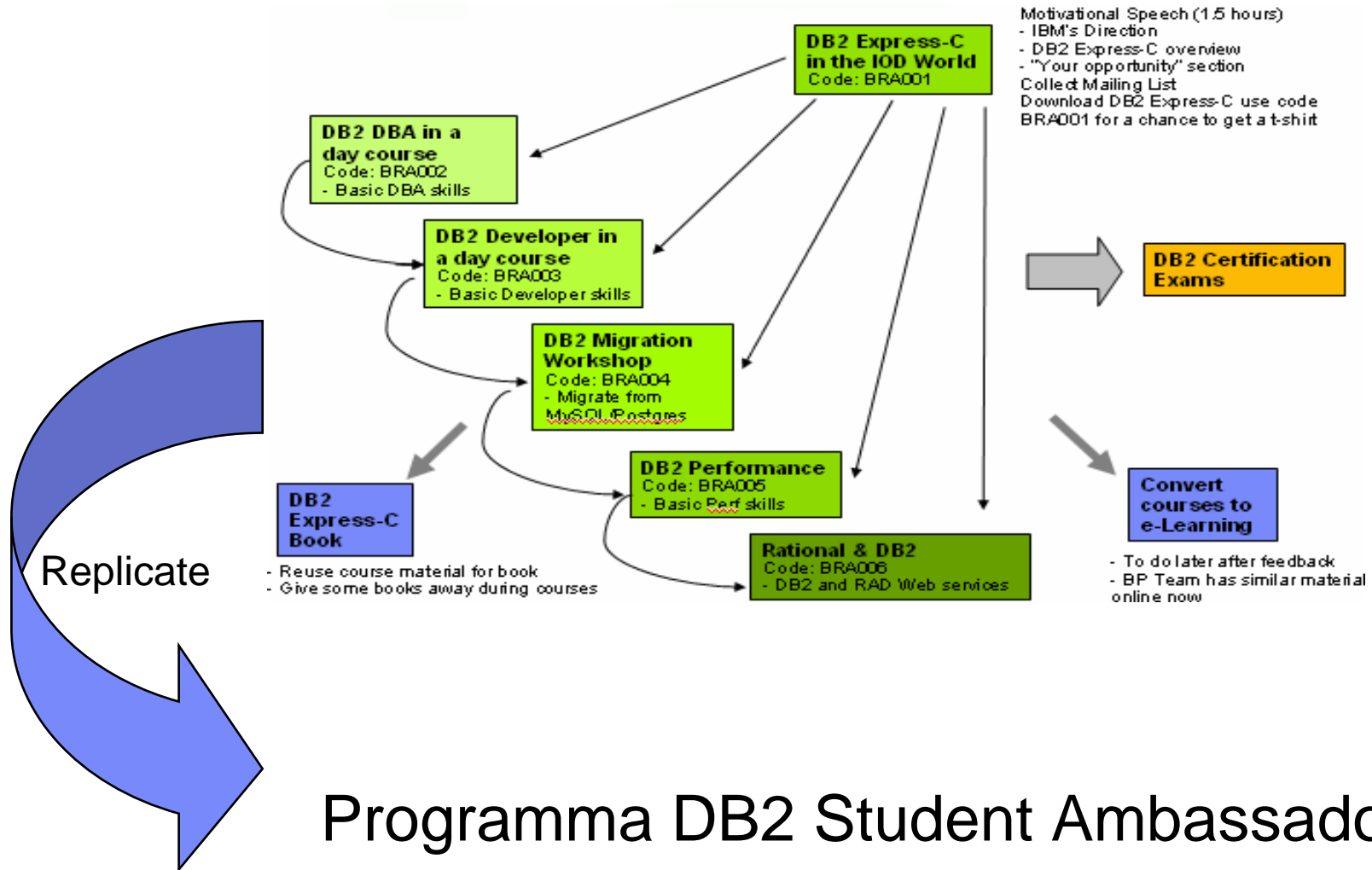
Raul F. Chong
DB2 Express Community Facilitator
Email: rfchong@ca.ibm.com
Last updated: August 20th, 2006



Step 8: Programma per le Università

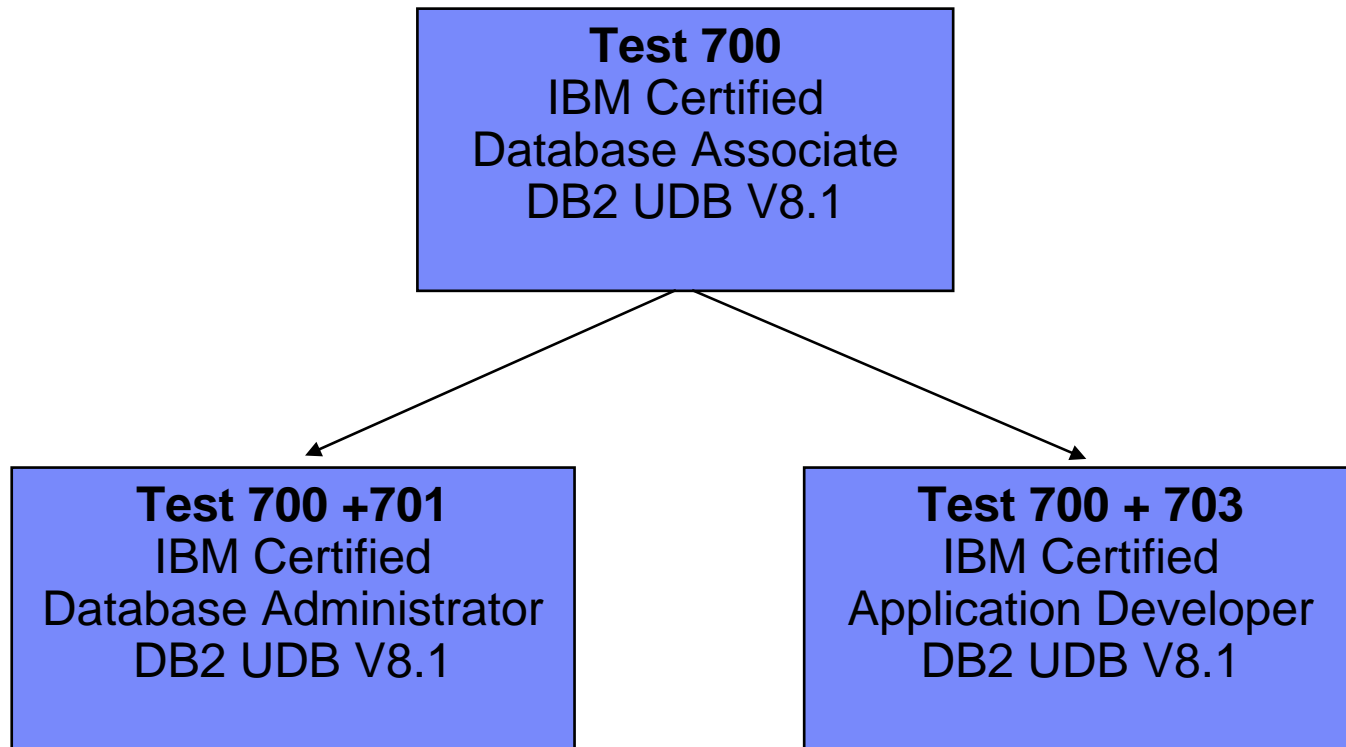


Replica locale del Programma Universitario



Programma DB2 Student Ambassador

Percorso di Certificazione DB2



Esami ai quali ci si può registrare gratuitamente attraverso questo programma: (due, ma solo due, a vostra scelta) : 700, 701, 703

Vantaggi:

Senza l'opportunità offerta da questo programma, gli esami possono costare da un minimo di US\$60 a un massimo di US\$150 a seconda della sede d'esame.

Libri da donare alle biblioteche
universitarie:

in funzione dell'interesse
(download) che sarà generato da
questo programma

Disponibili: Per la preparazione all' esame n. 701 (DBA)

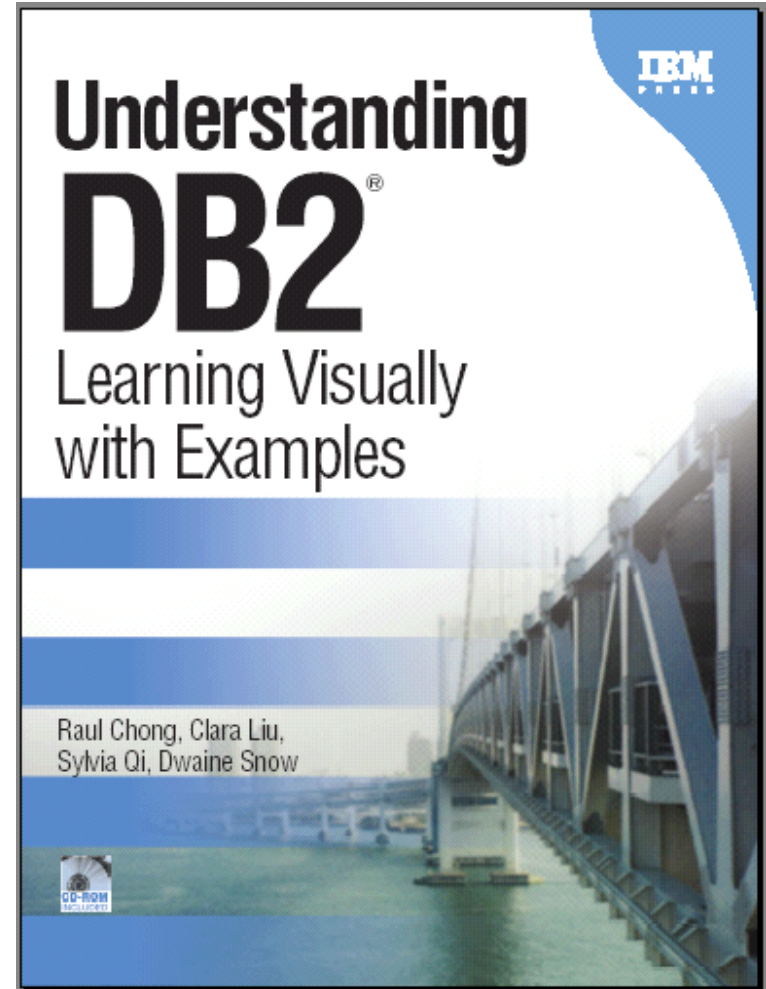
Understanding DB2 Learning Visually with Examples

Raul F. Chong, Clara Liu,
Sylvia F. Qi, Dwaine R. Snow

IBM Press

ISBN: 0-13-185916-1

→ **Questo libro è per la versione 8.2.
Quello per la versione 9 sarà
disponibile a maggio 2007**

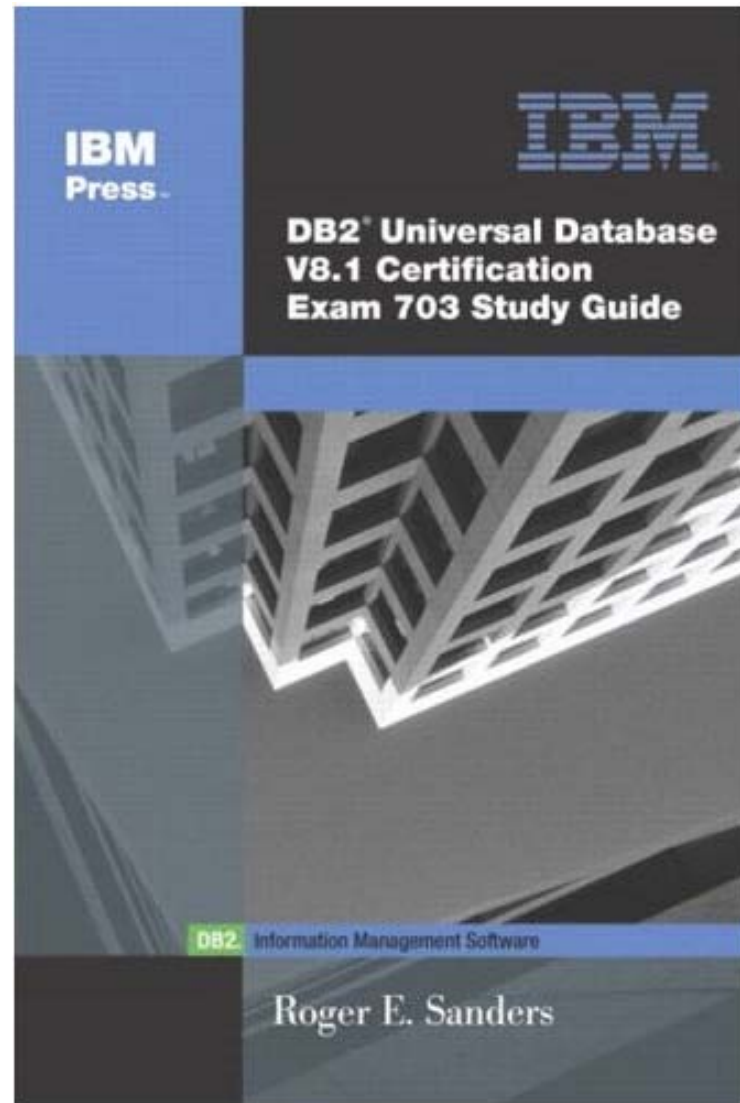


Disponibili: per la preparazione dell' esame 703 (App Dev)

DB2 UDB V8.1
Certification Exam 703
Study Guide

Roger Sanders

[ISBN#: 0131840495]



Come prepararsi agli esami di certificazione

- 1. Understanding DB2 - Learning Visually with Examples v8.2**
(For exam 700 + 701).
- 2. DB2 UDB V8.1 Certification Exam 703 Study Guide**
(For exam 703)
- 3. Libro grauito per la preparazione all' esame n. 700:**

Graeme Birchall's SQL Cookbook

http://mysite.verizon.net/Graeme_Birchall/id1.html

Tutti i libri oggetto di donazione coprono la versione 8.2 e tutte le edizioni DB2.

Gli esami di certificazione del 2006 saranno sulla versione 8.2 e copriranno tutte le edizioni DB2.

Come si può partecipare al Programma per le Università?

Per la registrazione al programma per le Università:

Due passi che devono essere completati entro **1 settimana** dallo speech iniziale:

1. a) Scarica DB2 Express-C 9:

www.ibm.com/db2/express

oppure

b) Richiedi il DVD DB2 Express-C V8.2 (il DVD con la versione 9 sarà pronto ad ottobre):

<http://www-306.ibm.com/software/data/info/expresscd/>

- In entrambi i casi, utilizza questo codice: **<code to be supplied>** nel campo **company name** all'atto della registrazione da uno qualsiasi dei siti web di cui sopra.

2. Completa il modulo di feedback che ti sarà consegnato alla fine di questa giornata (initial speech)

- Sarà usato per verificare le richieste di download da parte di coloro che avranno partecipato a questa giornata.

Quali piani per il futuro?

- Libri di testo in lingua locale
- Applicazioni
- Più partecipi, più potrai ottenere!

Come contattarci

Link utili

- **DB2 Express (FAQs, Downloads, Forum, Partner Solutions, ...)**
 - <http://www.ibm.com/db2/express>

- **DB2 product information and version specific details**
 - <http://www.ibm.com/software/data/db2/udb/>

- **IBM developerWorks DB2 zone (Technical articles and tutorials)**
 - <http://www.ibm.com/developerworks/db2>

- **DB2 9 Webpage:**
 - <http://www.ibm.com/db2/viper>

Contatti

Academic Initiative contacts

Carla Milani – carla_milani@it.ibm.com

Cristina Cannone – cristina_cannone@it.ibm.com

DB2 Express-C Community Team

General mailbox – db2x@ca.ibm.com

Raul Chong – rfchong@ca.ibm.com

Grazie! Thank you! Obrigado! Gracias! Kiitos!

Domande?