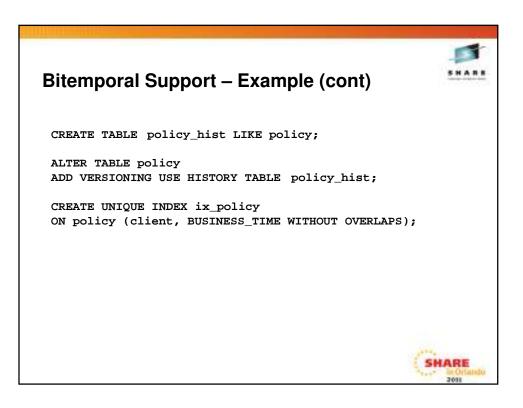
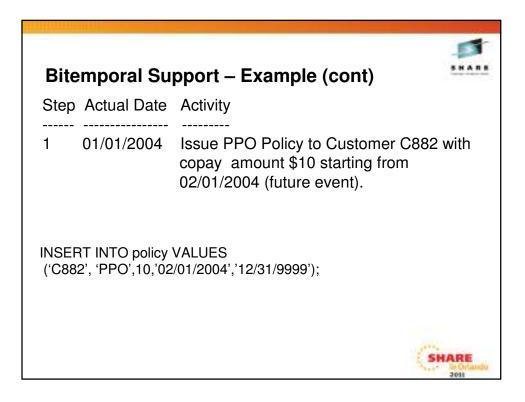


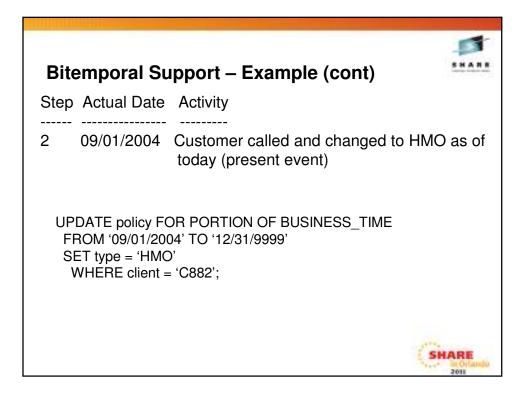
Bitempor	al Support	– Example	<u>8 H A N I</u>
CREATE TABL	E policy		
(client	CHAR(4)	NOT NULL,	
type	CHAR(4)	NOT NULL,	
copay	SMALLINT	NOT NULL,	
eff_beg	DATE	NOT NULL,	
eff_end	DATE	NOT NULL,	
sys_start	-	2) NOT NULL IMPLICITLY ALWAYS AS ROW BEGIN,	HIDDEN
sys_end	•	2) NOT NULL IMPLICITLY ALWAYS AS ROW END,	HIDDEN
trans_id	•	2) IMPLICITLY HIDDEN ALWAYS AS TRANSACTIO	N START ID,
PERIOD BUSI	NESS_TIME(eff	_beg, eff_end),	
PERIOD SYST	'EM_TIME(sys_s	tart, sys_end));	



Bit	emporal S	Support – Example (cont)	
Step	Actual Date	Activity	
1	01/01/2004	Issue PPO Policy to Customer C882 with copay amount \$10 starting from 02/01/2004 (future event).	
2	09/01/2004	,	
3	03/01/2006	Copay increase to \$15 starting 01/01/2007 (future event)	
4	06/01/2008	Cancel policy as of today (present event)	
5	09/01/2008		
		SI	ARE In Orlando 2011



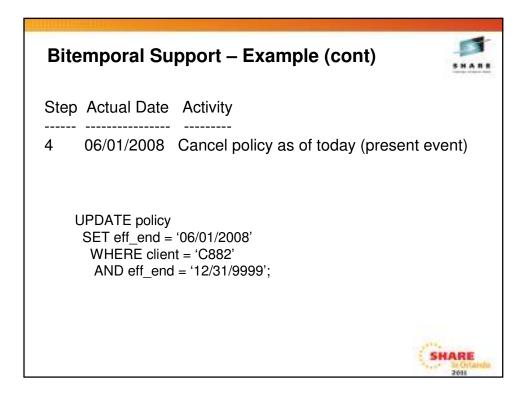
Step	Date		Activity			
1 2 3 4 5 /01/2004	09/01/20 03/01/20 06/01/20	004 (Future) 004 (Present) 006 (Future) 008 (Present) 008 (Past)	Customer cal Copay increa Cancel Policy	lled and changed to I ise to \$15 starting 01 / as of today	HMO as of today /01/2007	\$10 starting from 02/01/200 05/01/2006 to 10/01/2007
client	type	copay	eff_beg	eff_end	sys_start	sys_end
			02/01/2004	12/31/9999	2004-01-01	9999-12-31
C882	PPO	10	02/01/2004			



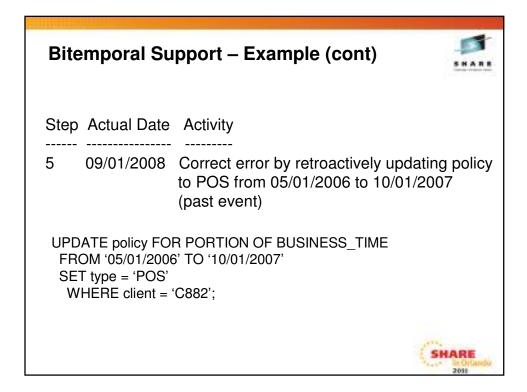
Step	Date		Activity			
1 2 3 4 5 02/01/2004	09/01/20 03/01/20 06/01/20	04 (Future) 04 (Present) 06 (Future) 08 (Present) 08 (Past)	Customer cal Copay increa Cancel Policy	led and changed to H se to \$15 starting 01/ v as of today	IMO as of today 01/2007	10 starting from 02/01/200 05/01/2006 to 10/01/2007
PPO/10	HMO/10					
client	type	copay	eff_beg	eff_end	sys_start	sys_end
C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31
C882	НМО	10	09/01/2004	12/31/9999	2004-09-01	9999-12-31



Step	Date		Activity			
1 2 3 4 5 2/01/2004	09/01/200 03/01/200	04 (Future) 04 (Present) 06 (Future) 08 (Present) 08 (Past)	Customer cal Copay increa Cancel Policy	led and changed to H se to \$15 starting 01/ as of today	IMO as of today /01/2007	10 starting from 02/01/20 05/01/2006 to 10/01/2003
PPO/10	HMO/10			HMC	0/15	
client	type	copay	eff_beg	eff_end	sys_start	sys_end
C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31
C882	НМО	10	09/01/2004	01/01/2007	2006-03-01	9999-12-31
C882	HMO	15	01/01/2007	12/31/9999	2006-03-01	9999-12-31



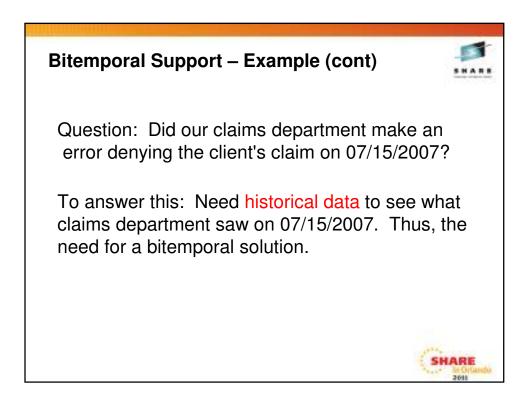
Step	Date		Activity				
1 2 3 4 5 01/2004	01/01/2004 (Future) 09/01/2004 (Present) 03/01/2006 (Future) 06/01/2008 (Present) 09/01/2008 (Past)		Issue PPO Policy to Customer C882 with copay amount \$10 starting from 0 Customer called and changed to HMO as of today Copay increase to \$15 starting 01/01/2007 Cancel Policy as of today Correct error by retroactively updating policy to POS from 05/01/2006 to 10 01/01/2007				
PPO/10	HMO/10			HMO/15			
client	type	copay	eff_beg	eff_end	sys_start	sys_end	
C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31	
C882	HMO	10	09/01/2004	01/01/2007	2006-03-01	9999-12-31	
C882	НМО	15	01/01/2007	06/01/2008	2008-06-01	9999-12-31	



Step	Date		Activity						
2 2 4 5 1/2004	01/01/2004 (Future) 09/01/2004 (Present) 03/01/2006 (Future) 06/01/2008 (Present) 09/01/2008 (Past)		Customer cal Copay increa Cancel Policy	Issue PPO Policy to Customer C882 with copay amount \$10 starting from 02/01/20 Customer called and changed to HMO as of today Copay increase to \$15 starting 01/01/2007 Cancel Policy as of today Correct error by retroactively updating policy to POS from 05/01/2006 to 10/01/2006 01/01/2007 06/01/2008					
PPO/10	HMO/10		POS/10	POS/15		HMO/15			
client	type	copay	eff_beg	eff_end	sys_start	sys_end			
C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31			
C882	НМО	10	09/01/2004	05/01/2006	2008-09-01	9999-12-31			
C882	POS	10	05/01/2006	01/01/2007	2008-09-01	9999-12-31			
C882	POS	15	01/01/2007	10/01/2007	2008-09-01	9999-12-31			
C882	НМО	15	10/01/2007	06/01/2008	2008-09-01	9999-12-31			

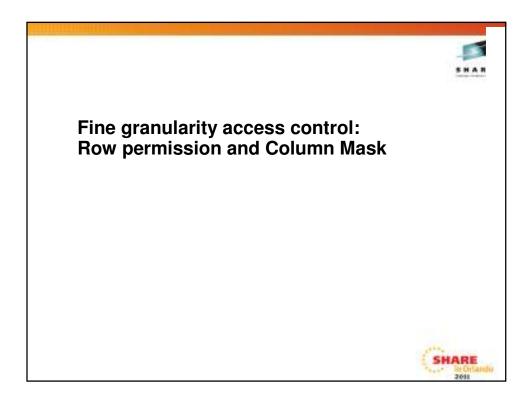
	Bitemporal Support – Example (cont)									
02/	Question: On 09/15/2008, client calls and complains. Client saw an out-of-network specialist on 07/01/2007. Claims dept. denied client's claim due to HMO coverage for this visit on 07/15/2007. Client demands reimbursement.									
	PPO/10	HMO/10		POS/10	POS/15	×	HMO/15			
	client	type	copay	eff_beg	eff_end	sys_start	sys_end			
	C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31			
	C882	НМО	10	09/01/2004	05/01/2006	2008-09-01	9999-12-31			
	C882	POS	10	05/01/2006	01/01/2007	2008-09-01	9999-12-31			
	C882	POS	15	01/01/2007	10/01/2007	2008-09-01	9999-12-31			
	C882	HMO	15	10/01/2007	06/01/2008	2008-09-01	9999-12-31			
				Table: policy			SHARE In Ortandu 2011			

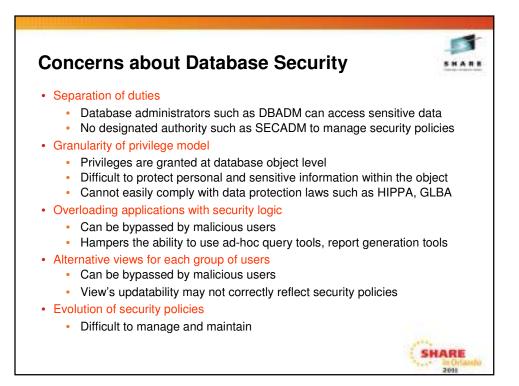
	Bitemporal Support – Example (cont)										
02	SELECT * FROM POLICY FOR BUSINESS_TIME AS OF '2007-07-01' WHERE CLIENT='C882'; Answer: Customer has "POS", so should be reimbursed.										
K	PPO/10	HMO/10	•	POS/10	POS/15		HMO/15				
	client	type	copay	eff_beg	eff_end	sys_start	sys_end				
	C882	PPO	10	02/01/2004	09/01/2004	2004-09-01	9999-12-31				
	C882	НМО	10	09/01/2004	05/01/2006	2008-09-01	9999-12-31				
	C882	POS	10	05/01/2006	01/01/2007	2008-09-01	9999-12-31				
	C882	POS	15	01/01/2007	10/01/2007	2008-09-01	9999-12-31				
<b></b>	C882	НМО	15	10/01/2007	06/01/2008	2008-09-01	9999-12-31				
		SHARE SHARE									

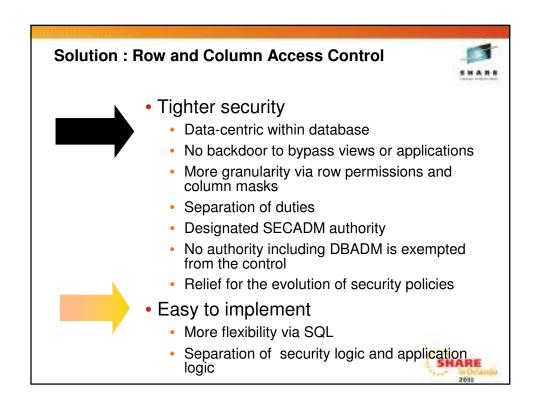


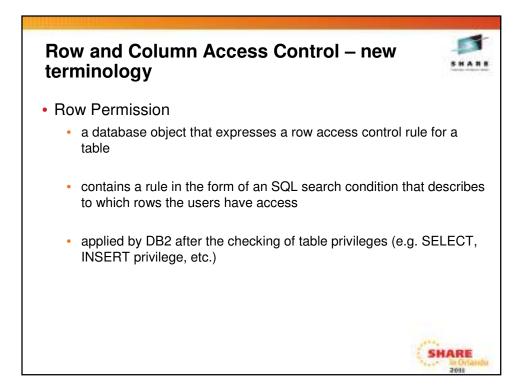
		FO FO W	R BUS <mark>R SYS</mark> /HERE	TEM_TIME client='C88	IE AS OF '20 AS OF '200	7-07-15'				
	client	type	copay	eff_beg	eff_end	sys_start	sys_end			
	C882	PPO	10	02/01/2004	12/31/9999	2004-01-01	2004-09-01			
	C882	НМО	10	09/01/2004	12/31/9999	2004-09-01	2006-03-01			
	C882	НМО	15	01/01/2007	12/31/9999	2006-03-01	2008-06-01			
'	C882	НМО	10	09/01/2004	01/01/2007	2008-06-01	2008-09-01			
	C882	НМО	15	01/01/2007	06/01/2008	2008-06-01	2008-09-01			
	Cose HMO IS 01/01/2007 00001/2008 2008-06-01 2008-06-01   Table: policy_hist SHARE									

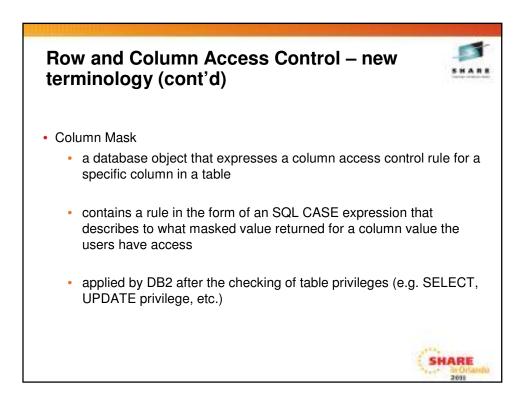
**Bitemporal Support – Example (cont)** 

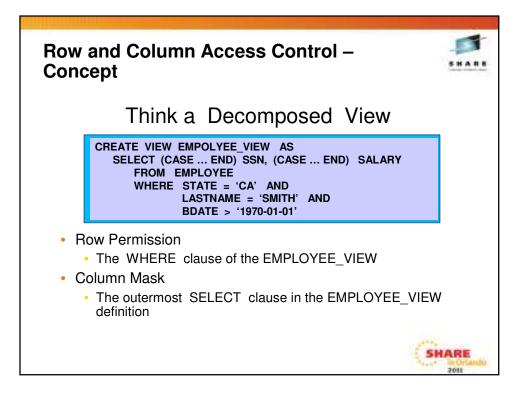


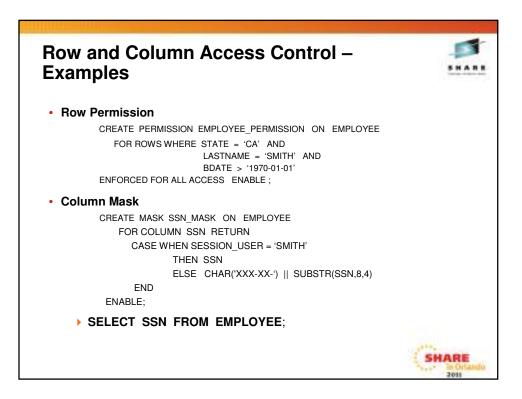


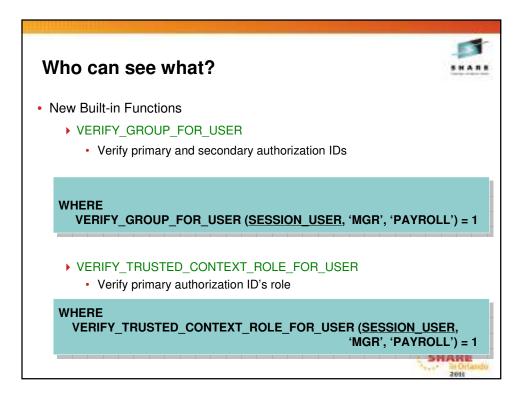


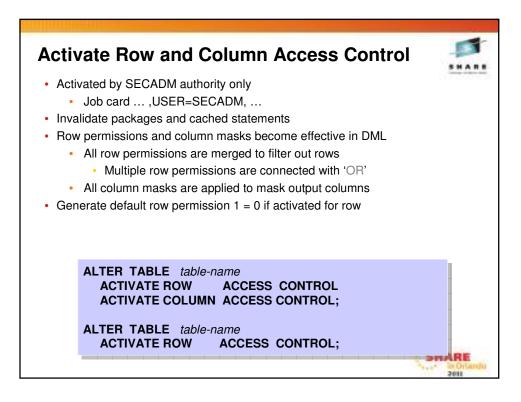


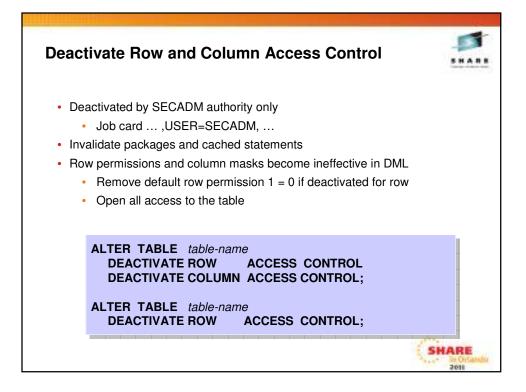


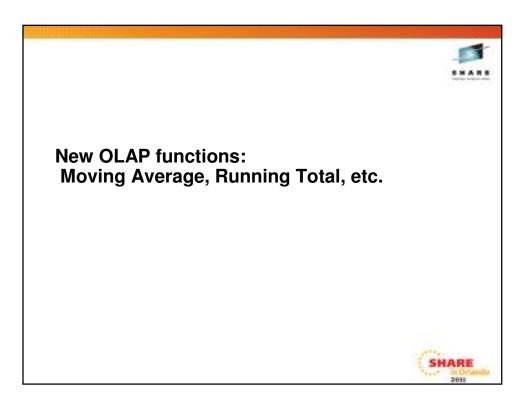


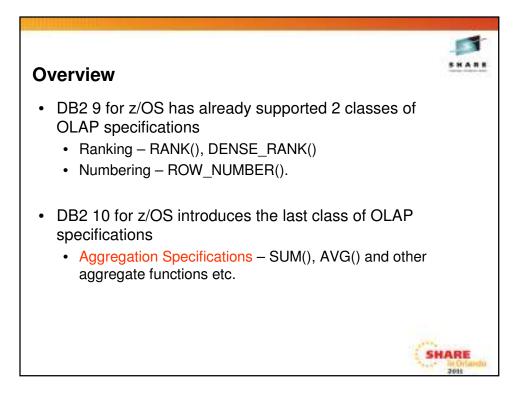


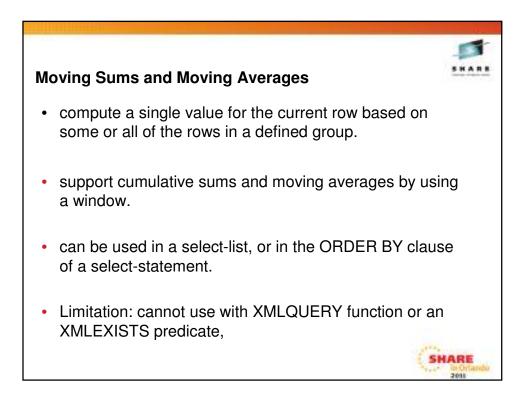












Exam	ple Data	a			<b>1</b>
(EMPNO FIRSTNN LASTNAN WORKDEE		10) NOT NUL 10) NOT NUL ,			
	the table: FIRSTNAME	LASTNAME	WORKDEPT	SALARY	
000010	CHRISTINE	HASS	A00	52750.00	
000030	SALLY	KWAN	C01	38250.00	
000110	VINCENZO	LUCCHESSI	A00	46500.00	
000140	KIM	NATZ	C01	47250.00	
000150	HEATHER	NICHOLLS	C01	47250.00	
200010	DIAN	HEMMINGER	A00	29250.00	
200120	GREG	ORLANDO	A00	29250.00	
200130	DOLORES	QUINTANA	C01	19350.00	
					SHARE In Orlando 2011

	PLE for ,DENSE_	RANK,R	MUN_WC	BER from V9	)	-		
SELECT w R dept_ra D as dens R as row	<pre>Display the workdept, salary, firstname, lastname, rank in the dept based on salary, dense_rank in the dept base on salary, row_nUmber in the dept based on salary. SELECT workdept, salary, firstname, lastname, RANK() OVER (PARTITION BY workdept order by salary desc) as dept_rank, DENSE_RANK() OVER (PARTITION BY workdept order by salary desc) as denserank, ROW_NUMBER() OVER (PARTITION BY workdept order by salary desc) as rownum FROM EMP;</pre>							
WORKDEPT	SALARY	FIRSTNAME	LASTNAME	DEPT_RANK DENS	ERANK RO	DWNUM		
A00	52750.00	CHRISTINE	HASS	1	1	1		
A00	46500.00	VINCENZO	LUCCHESSI	2	2	2		
A00	29250.00	DIAN	HEMMINGER	3	3	3		
A00	29250.00	GREG	ORLANDO	3	3	4		
C01	47250.00	KIM	NATZ	1	1	1		
C01	47250.00	HEATHER	NICHOLLS	1	1	2		
C01	38250.00	SALLY	KWAN	3	2	3		
C01	19350.00	DOLORES	QUINTANA	4	3.	4 IARE Be OrGando 2011		

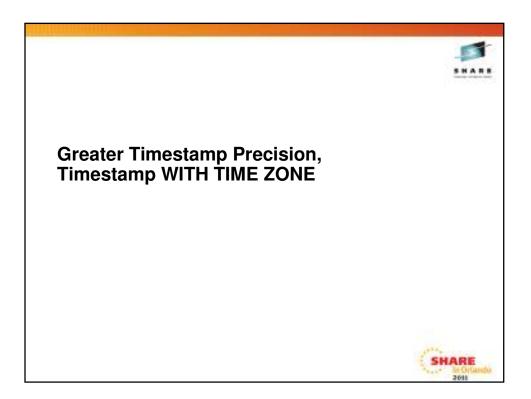
Examp	le Data		58A83
	INTEGE	tory ( (10), Business Territory 2, Six-digit in YYYYM Total sales for Te	IM format
Data in the ta	ble:		
Territory	Month	Sales	
East	199810	10	
East	199811	4	
East	199812	10	
East	199901	7	
East	199902	10	
West	199810	8	
West	199811	12	
West	199812	7	
West	199901	11	
West	199902	6	
			SHARE Is Orlando

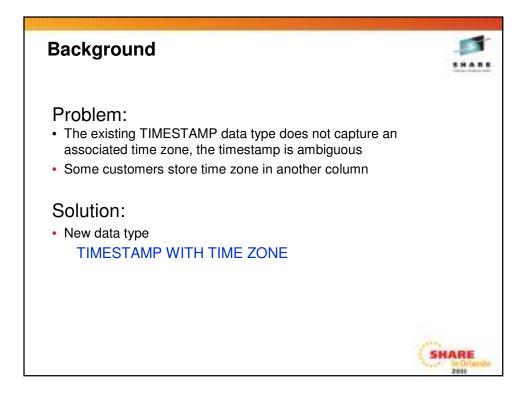
EXAMF	PLE for I	Moving SUM, M	loving AV	G, etc 📫
Display the b territory av	ousiness territor veraged over th	ry, month, total sales for ea le current month and the pr	ch territory/month eceding two month	and the sale in the is.
AVC FROM Sal	G(Sh.Sales)		Ionth ING) as Moving	g_average
	199810	10	10	
East East	199810	4	10	
East	199812	4 10	8	
Last	1999012	7	7	
Fact		1	/	
East East	199902	10	9	
East East West	199902 199810	10 8	9 8	
East	199810	10 8 12	9 8 10	
East West		8	8 10	
East West West	199810 199811	8 12	8	

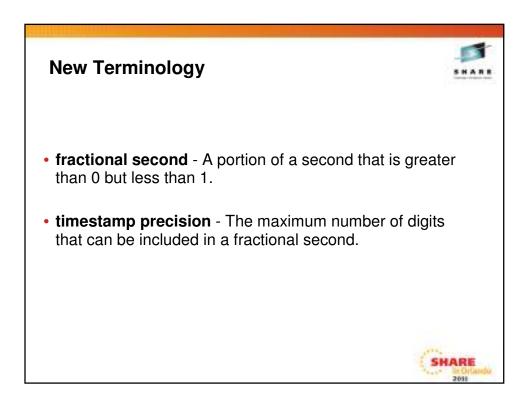
Example Data	-
<pre>create table stock (date date,symbol char(3),close_ dec(9,3)); insert into stock values ('2007-04-23','XYZ',110.12)</pre>	25);
insert into stock values ('2007-04-24','XYZ',109.50 insert into stock values ('2007-04-25','XYZ',110.00 insert into stock values ('2007-04-26','XYZ',119.75	)0); 50);
insert into stock values ('2007-04-27','XYZ',110.62 insert into stock values ('2007-04-30','XYZ',111.12 insert into stock values ('2007-05-01','XYZ',113.75	25); 50);
insert into stock values ('2007-05-02','XYZ',114.00 insert into stock values ('2007-05-03','XYZ',113.75 insert into stock values ('2007-05-04','XYZ',112.12	50);
<pre>insert into stock values ('2007-05-07','XYZ',109.75 insert into stock values ('2007-05-08','XYZ',111.00 insert into stock values ('2007-05-09','XYZ',110.75</pre>	);
	SHARE

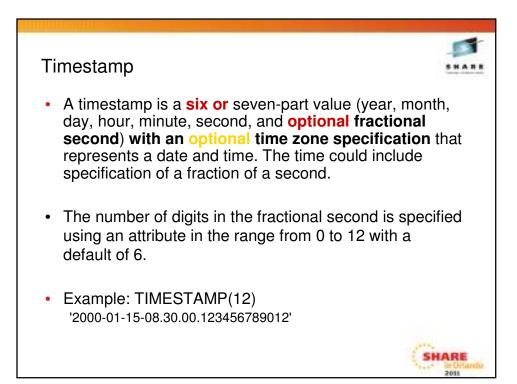
EXAMPL ROWS	E for N	loving	SUM, Mov	ving AVG,	etc 🧖
	day centered y the rows cla		e of XYZ stock for e	ach day the stock tra	ded. The window
	<b>between 3</b>		decimal( <b>avg(cl</b> and 3 following	ose_price) over ),6,3)	(order by
DATE	SYMBOL CI	LOSE_PRICE	SMOOTH_CP		
04/23/2007	XYZ	110.125	112.343		
04/24/2007	XYZ	109.500	112.000		
04/25/2007	XYZ	110.000	111.854		
04/26/2007	XYZ	119.750	112.125		
04/27/2007	XYZ	110.625	112.678		
04/30/2007	XYZ	111.125	113.285		
05/01/2007	XYZ	113.750	113.589		
05/02/2007	XYZ	114.000	112.160		
05/03/2007	XYZ	113.750	112.214		
05/04/2007	XYZ	112.125	112.160		
05/07/2007	XYZ	109.750	111.339		
05/08/2007	XYZ	111.000	110.642		
05/09/2007	XYZ	110.750	110.125		and the second second
05/10/2007 05/11/2007	XYZ XYZ	108.000 109.125	109.725 109.718		SHARE Is Orlando 2011

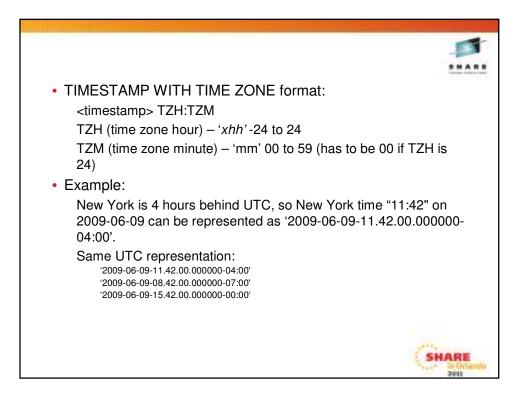
EXAMPLI RANGE		oving S	SUM, Mo	ving AVG	, etc 🗾
The window is s SELECT date,s decimal( <b>av</b> 00000006 count(clos	pecified by the	range clause. yname(date),1 over (order b ,2) as avg_7_ra (order by date	9) as day, close_ y date range ange, range	ay the stock traded. price,	
DATE	DAY	CLOSE_PRICE	AVG_7_RANGE	COUNT_7_RANGE	
04/23/2007	Monday	110.125	110.12	1	
04/24/2007	Tuesday	109.500	109.81	2	
04/25/2007	Wednesday	110.000	109.87	3	
04/26/2007	Thursday	119.750	112.34	4	
04/27/2007	Friday	110.625	112.00	5	
04/30/2007	Monday	111.125	112.20	5	
05/01/2007	Tuesday	113.750	113.05	5	
05/02/2007	Wednesday	114.000	113.85	5	
05/03/2007	Thursday	113.750	112.65	5	
05/04/2007	Friday	112.125	112.95	5	
05/07/2007	Monday	109.750	112.67	5	
05/08/2007	Tuesday	111.000	112.12	5	
05/09/2007	Wednesday	110.750	111.47	5	
05/10/2007	Thursday	108.000	110.32	5	
05/11/2007	Friday	109.125	109.72	5	Contractor The Contractor
					SHARE BiorGando 2011

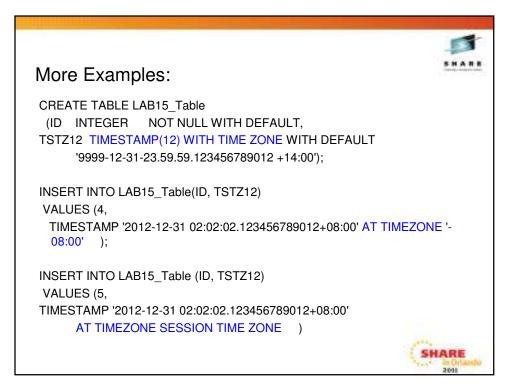


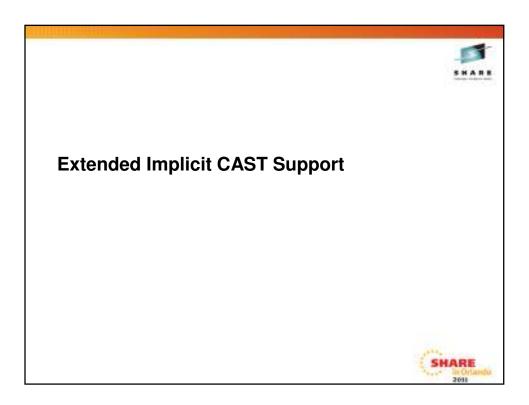


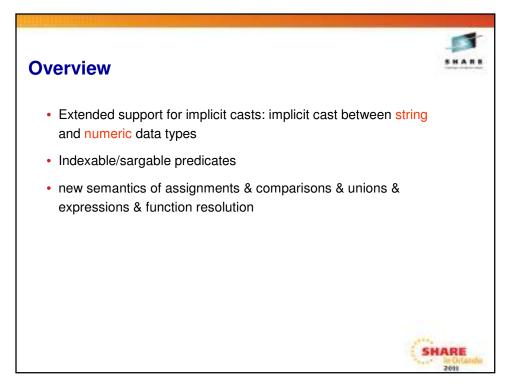


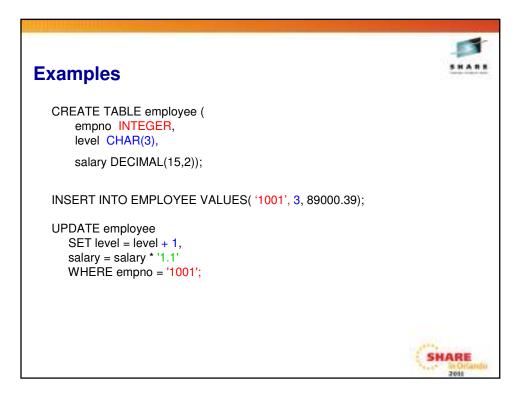












n Numeric to String bers → Strings: character string graphic string (n	(no CLOB, no FOR BIT DATA subtype o DBCLOB, UNICODE encoding sche	
Source Data Type	Target Data Type	
SMALLINT	VARCHAR(6)	
INTEGER	VARCHAR(11)	
BIGINT	VARCHAR(20)	
NUMERIC/DECIMAL	VARCHAR(precision+2)	
FLOAT (REAL, DOUBLE)	VARCHAR(24)	
DECFLOAT	VARCHAR(42)	
	S	HARE Is Orlando 2011

tring to Numeric	
Source Data Type	Target Data Type
CHAR	DECFLOAT(34)
VARCHAR	DECFLOAT(34)
GRAPHIC	DECFLOAT(34)
VARGRAPHIC	DECFLOAT(34)
CHAR/VARCHAR <u>FOR BIT</u> DATA	<u> </u>
BINARY/VARBINARY	N/A
CLOB/BLOB/DBCLOB	N/A

