SBU - what are Win APIs in 1.9.
- especially Win 3-0

MIRRORS PROJECT OVERVIEW

file

- **Project Goals**

- **Study Objectives**

- **Study Conclusions**

- **Deliverables**

- **Project Plan**

- **Compatibility Issues**

- **Performance Issues**

- **Cruiser Work Items**

- **Staffing Issues**

PROJECT GOALS

Applications:

-   Support earliest delivery of PM versions of MS Applications

    -   Be cheaper than brute force PM conversion

    -   Allow Apps to run on all versions of PM (>= 1.1)

Systems:

-   Allow OS/2 2.0 (Cruiser) to offer 100% binary compatibility
    with Win 3.0

STUDY OBJECTIVES

- Evaluate Technical Work needed for full Win 3.0 compatibility using Mirrors Concept

- Clearly identify minimal support needed for MS Apps. (allow source code changes to Apps. if nec.)

- Determine usefulness of MGX Mirrors code.

- Develop Project Plan to meet Apps. and Systems Goals

- Identify PM and CP work items needed to offer full Win 3.0 support in Cruiser.

- Identify Performance and Compatibility problems to allow trade-offs to be made.

STUDY CONCLUSIONS

- MGX code is less useful than expected. It represents < 30% of work needed for Win 3.0 compatibility

- It is possible to achieve near Win 3.0 compatibility using the Mirrors concept. There are some compatibility and Performance issues.

- OPUS subset can be achieved on 1.1 base. Extra work will be needed in Cruiser to offer full WIN 3.0 compatibility.

- Achievable Ship Dates:

  - OPUS only Ship Date: 2/90

  - WIN 3.0 Ship Date: 5/90

DELIVERABLES

- MS Apps. exe's which will run on Windows and PM 1.1 and later using special DLL[1].

- DLL for Cruiser which will support most Win 3.0 exe's transparently.

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[1] Apps. will accept a two exe solution if nec., however a single exe solution is the goal.

PROJECT PLAN

- Methodology:

    - Start from MIRRORS source code base
    - Add, recode as necessary
    - Incorporate real Windows code where useful
    - DCR changes needed for full compatibility into Cruiser

- Development Resources:

    OPUS Only: 7 persons x 5 months in common with
                  Systems Goals

                  2 persons x 4 months OPUS specific

    WIN 3.0:   5 persons x 6 months in addition to
                  work in common with OPUS
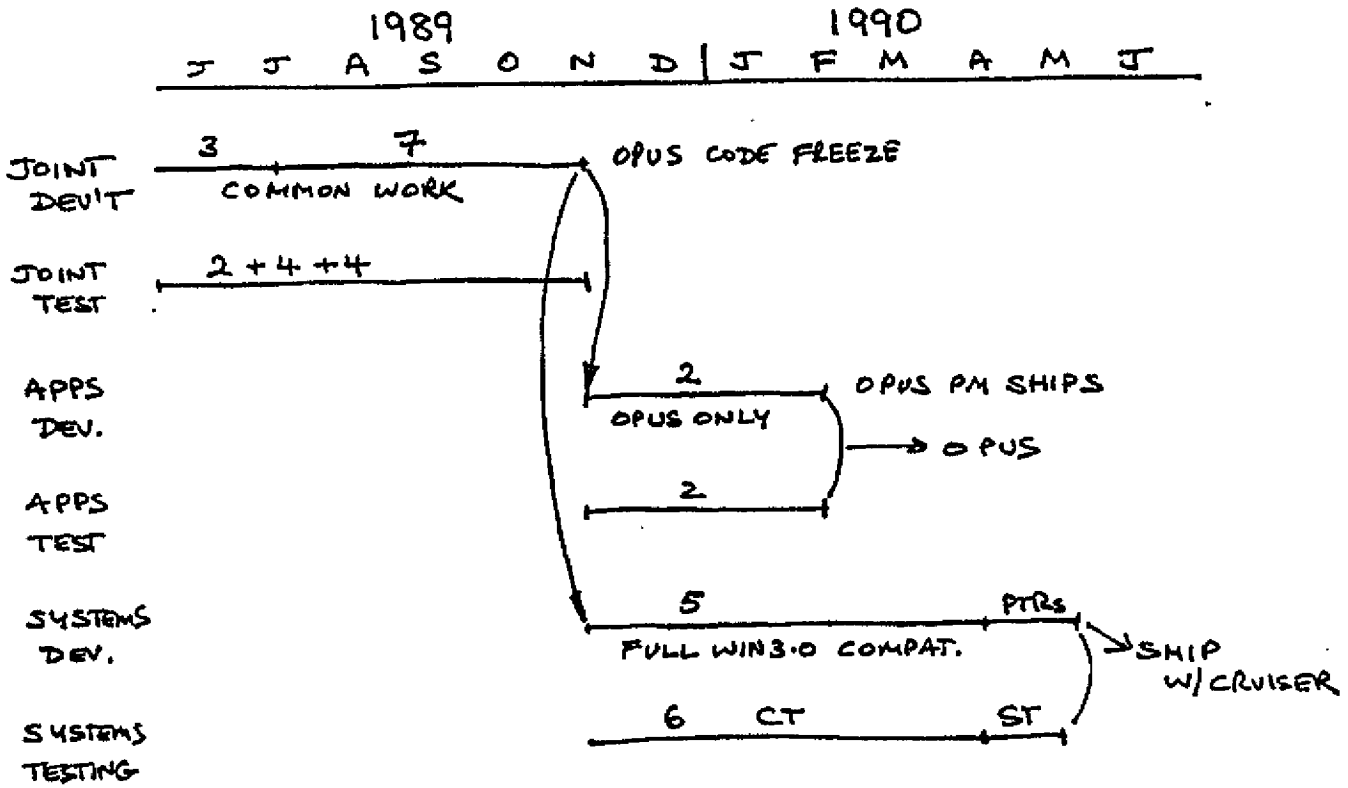
- Testing Resources:

    Common: 10 persons x 5 months

    OPUS: 2 persons x 4 months

    Win 3.0:   Additional 6 persons x 6 months

GANTT CHART

1989 **1990**

J J A S O N D | J F M A M J

JOINT DEV'T — 3 7 OPUS CODE FREEZE

COMMON WORK

JOINT TEST — 2 + 4 + 4

APPS DEV. 2 OPUS PM SHIPS

OPUS ONLY → OPUS

APPS TEST 2

SYSTEMS DEV. 5 PTRs → SHIP W/ CRUISER

FULL WIN3.0 COMPAT.

SYSTEMS TESTING 6 CT ST

COMPATIBILITY ISSUES

Here are a few of the ones identified:

- Writeable, Named Resources in Windows not in PM

- Win.ini compatibility on top of Os2.ini

- Filling and Line Drawing Conventions and Rounding Error

- Floodfill

- INT 21 emulation

- Metafiling

- Miscellaneous, little used, but hard to implement
  Windows APIs (not containable in timescale)

  - Sound Manager
  - Resource Loading Hooks
  - Class DCs
  - COMM APIs

PERFORMANCE ISSUES

PMWIN:
- Message Mapping
- Dialog Boxes
- Pulldown Menu Initialization
- SDM
- Window Creation Time
- Repaint
- Scrolling
- Window Proxies

KERNEL:
- Resource Support
- List Management

GDI:
- GDI is generally faster than GPI
- Object/DC Management
- Fonts and Text Primitives
- Regions
- Metafiles
- Drawing Primitives
- Printing
- Coordinate Transformations

CRUISER WORK ITEMS

- **15-20 kloc DCR Bucket**

- **Items/DCRs:**

   CP:
   - Loading Windows Exes
   - DosSetVec()
   - Resource Support
   - Hard Error Handling
   - DosLower()
   - IsCharAlpha, IsCharAlphaNumeric, ICharLower, IsCharUpper
   - GetModuleUsage

   PM:
   - Control Message Filtering
   - Coordinate Mapping Support
   - Windows Proxy Support
   - DestroyWindow Hook
   - Class DC support
   - WM_FILESYSCHANGE
   - WM_MENUCHAR
   - CBT Journaling Support
   - WM_SPOOLERSTATUS
   - WM_TIMECHANGE
   - Desktop Pattern Support
   - Menu Checkmark Support
   - BitBlt Compatibility
   - GetBitmapBits
   - DCheight
   - SetTextJustification
   - CharExtra
   - Background Mix for Line Bundles
   - Windows Font Support (AddFontResource)
   - Arbitrary Cosmetic Thicklines

TESTING

- During the first 5 months there will be a single test team:

    2 x OPUS Testers
    4 x Windows API Testers
    4 x Kernel Support Testers

- 4 months OPUS specific testing for 2/90 ship:

    2 x OPUS Testers

- Systems Testing (6 months starting 11/89) for
  5/90 ship:

    6 x CT and System Test

STAFFING ISSUES

MANAGEMENT:

- Karl Stock/Martin Dunsmuir

    - someone will be identified to work for Karl.

DEVELOPMENT:

Now:

-	Scott Ludwig	Systems	
-	Rao Remala	Apps	
-	Paul Klingler	Systems	(6/15)
-	Rick Saada	Apps	Now

Identified:

-	Tom Bates	Systems	(7/15)	
-	Scott Means	Systems	(7/15?)	
-	Rick Powell	Apps	?	needs selling

TESTING:

-	Mark Tabar	Apps	Now	Lead
	.....			

PORTHOLE Development Plan   Last update: 04-Jul

ITEM Id	description	comp.	who	Estimated days	start	complete	100% contingency days	start	complete	CT Test Start	Complete
101	DC Manager	GDI	paulk	5	15-Jun	21-Jun	10	15-Jun	27-Jun	28-Jun	05-Jul
102	Object Manager	GDI	paulk	5	22-Jun	28-Jun	10	28-Jun	10-Jul	11-Jul	18-Jul
2	message translation	USER	scottlu	3	01-Jul	04-Jul	6	11-Jul	18-Jul	19-Jul	23-Jul
1	message routing	USER	scottlu	8	21-Jun	30-Jun	16	21-Jun	10-Jul	11-Jul	22-Jul
6	Memory mgr	KERNEL	mm	5	05-Jul	11-Jul	10	05-Jul	17-Jul	18-Jul	25-Jul
7	Resource loading	USER	raor	5	05-Jul	11-Jul	10	05-Jul	17-Jul	18-Jul	25-Jul
3	input subsystems	USER	scottlu	5	05-Jul	11-Jul	10	19-Jul	31-Jul	01-Aug	08-Aug
27	DDE support	USER	sanfords	5	01-Aug	07-Aug	10	01-Aug	13-Aug	14-Aug	21-Aug
9	Atom Manager	KERNEL	raor	3	25-Jul	28-Jul	6	12-Aug	19-Aug	20-Aug	24-Aug
103	regions	GDI	paulk	10	29-Jun	11-Jul	20	11-Jul	04-Aug	05-Aug	19-Aug
8	Resource apis	KERNEL	raor	10	12-Jul	24-Jul	20	18-Jul	11-Aug	12-Aug	26-Aug
4	window create/destroy	USER	scottlu	10	12-Jul	24-Jul	20	01-Aug	25-Aug	26-Aug	09-Sep
19	WinHelp() support	USER	raor	1	11-Aug	12-Aug	2	14-Sep	16-Sep	17-Sep	18-Sep
28	MDI support	USER	rickp	10	01-Aug	13-Aug	20	01-Aug	25-Aug	26-Aug	09-Sep
20	Save/restore	USER	raor	2	13-Aug	15-Aug	4	17-Sep	21-Sep	22-Sep	24-Sep
11	Menu Mgr	USER	raor	10	29-Jul	10-Aug	20	20-Aug	13-Sep	14-Sep	28-Sep
17	Keyboard support apis	USER	smeans	3	13-Sep	16-Sep	6	25-Sep	02-Oct	03-Oct	07-Oct
5	window paint	USER	scottlu	10	25-Jul	06-Aug	20	26-Aug	19-Sep	20-Sep	04-Oct
10	Windows Hooks	USER	scottlu	5	07-Aug	13-Aug	10	20-Sep	02-Oct	03-Oct	10-Oct
12	Clipboard	USER	smeans	10	31-Aug	12-Sep	20	31-Aug	24-Sep	25-Sep	09-Oct
13	Dialog Controls	USER	mm	20	12-Jul	05-Aug	40	18-Jul	04-Sep	05-Sep	03-Oct
14	Dialog Manager	USER	mm	10	06-Aug	18-Aug	20	05-Sep	29-Sep	30-Sep	14-Oct
15	Window Services	USER	mm	5	19-Aug	25-Aug	10	30-Sep	12-Oct	13-Oct	20-Oct
26	File I/O routines / String routines	KERNEL	smeans	5	17-Sep	23-Sep	10	03-Oct	15-Oct	16-Oct	23-Oct
22	Carets, Cursors & Icons	USER	raor	3	29-Aug	01-Sep	6	17-Oct	24-Oct	25-Oct	29-Oct
18	Misc input apis	USER	scottlu	2	27-Aug	29-Aug	4	28-Oct	01-Nov	02-Nov	04-Nov
21	Profile support (win.ini / os2.ini)	KERNEL	raor	10	16-Aug	28-Aug	20	22-Sep	16-Oct	17-Oct	31-Oct
30	Misc routines	USER	smeans	5	24-Sep	30-Sep	10	16-Oct	28-Oct	29-Oct	05-Nov
06	transforms	GDI	paulk	20	12-Jul	05-Aug	40	05-Aug	22-Sep	23-Sep	21-Oct
08	fill routines	GDI	newguy	10	11-Aug	23-Aug	20	20-Sep	14-Oct	15-Oct	29-Oct
23	Misc drawing/ rectangle rtns	USER	raor	5	02-Sep	08-Sep	10	25-Oct	06-Nov	07-Nov	14-Nov
25	Property Lists	USER	scottlu	1	06-Sep	07-Sep	2	15-Nov	17-Nov	18-Nov	19-Nov
16	Activation / Focus	USER	scottlu	10	14-Aug	26-Aug	20	03-Oct	27-Oct	28-Oct	11-Nov
24	USER Palette Mgr apis	USER	scottlu	5	30-Aug	05-Sep	10	02-Nov	14-Nov	15-Nov	22-Nov
29	Class DC support	USER	scottlu	2	08-Sep	10-Sep	4	18-Nov	22-Nov	23-Nov	25-Nov
09	text justify	GDI	newguy	10	24-Aug	05-Sep	20	15-Oct	08-Nov	09-Nov	23-Nov
32	Protect mode services	KERNEL	scottlu	5	11-Sep	17-Sep	10	23-Nov	05-Dec	06-Dec	13-Dec

Task	Group	Owner								
110 frame region	GDI	newguy	13	06-Sep	21-Sep	26	09-Nov	10-Dec	11-Dec	29-Dec
105 bitmaps	GDI	newguy	13	01-Jul	16-Jul	26	01-Jul	01-Aug	02-Aug	20-Aug
31 Interrupt compatibility	KERNEL	mm	20	26-Aug	19-Sep	40	13-Oct	30-Nov	01-Dec	29-Dec
112 raster font support	GDI	paulk	10	06-Aug	18-Aug	20	23-Sep	17-Oct	18-Oct	01-Nov
104 font Manager	GDI	tomba	50	15-Jul	13-Sep	100	15-Jul	12-Nov	13-Nov	22-Jan
107 metafiles	GDI	newguy	20	17-Jul	10-Aug	40	02-Aug	19-Sep	20-Sep	18-Oct
114 GDI palatte manager	GDI	paulk	5	13-Sep	19-Sep	10	06-Dec	18-Dec	19-Dec	26-Dec
113 vector font support	GDI	paulk	20	19-Aug	12-Sep	40	18-Oct	05-Dec	06-Dec	03-Jan
111 printing	GDI	raor	30	09-Sep	15-Oct	60	07-Nov	18-Jan	19-Jan	02-Mar

868
10060.9

10060.909

NOT IN PLAN
COMM Mgr
SOUND Mgr