IZOBRAŽEVALNI CENTER DELTA

1 2 3 4 5 6 7 8 9

TERMINSKI PLAN ŠOLANJA

Spoštovani poslovni partnerji,
radi bi vam posredovali naslednje informacije:

PRIJAVA NA TEČAJ:

Izpolnjeno prijavnico pošljite izobraževalnemu centru na lokacijo, kjer želite obiskovati razpisani tečaj; namesto nje lahko uporabite dopis, teleks ali telegram; v njem navedite: polni naslov vaše organizacije, kodo in naziv tečaja, želeni datum ter ime in priimek prijavljenca.

SPREJEM NA TEČAJ:

Zagotovilo za sprejem na tečaj je naše pisno potrdilo o sprejemu na tečaj, ki ga obvezno prinesite s seboj.

ODJAVA UDELEŽBE:

Odjavite se lahko le pisno, najkasneje 10 dni pred začetkom tečaja; nepravočasnih odjav ne bomo upoštevali in vam torej plačila ne bomo vrnili oziroma vam bomo zaračunali polno ceno tečaja.

PLAČILO:

Potrdilo o plačilu izobraževalne storitve (virman, položnica, obračunski ček ali bon za izobraževanje) nam pošljete s prijavnico najkasneje 14 dni pred začetkom tečaja na tisto lokacijo, kamor ste se prijavili.

Številka žiro računa in naslov:

50102-601-21686
Iskra Delta
Ljubljana, Parmova 41

PRAVICE ICD:

- ICD si pridržuje pravico spremeniti termin ali lokacijo najmanj pet dni pred najavljenim začetkom tečaja; o morebitni spremembi obvesti prijavljenca pisno.

- ICD lahko odjavi tečaj najmanj pet dni pred začetkom, če za tečaj ni bilo dovolj prijav.

- ICD si pridržuje pravico usklajevanja cen izobraževalnih storitev glede na veljavne zakonske normative.

BONI ZA IZOBRAŽEVANJE:

- Kupec naših sistemov dobi ustrezno število bonov za izobraževanje po plačilu obveznosti iz pogodbe o nakupu računalniške opreme.

- Uporabnik lahko kupi bone za naše izobraževalne storitve po posebni pogodbi z Izobraževalnim Centrom Delta (ICD). Za večje število kupljenih bonov vam ICD prizna določen popust. Informacije o možnosti nakupa bonov lahko dobite na vseh lokacijah ICD.

IZREDNE IZOBRAŽEVALNE STORITVE (ON-SITE):

Na vašo željo organiziramo izredne izobraževalne storitve, za kar sklenemo z vami posebno pogodbo. Če imate prostorske in tehnične možnosti, lahko tečaj izvedemo v vaši delovni organizaciji.

Pričakujemo, da boste podprli naša prizadevanja za izboljšanje organizacije izobraževalnih storitev in v obojestransko zadovoljstvo upoštevali navedeni način poslovanja.

Poštovani poslovni partneri,
želimo da vam posredujemo sledeće informacije:

PRIJAVA NA KURS:

Ispunjenu prijavnicu pošaljite obrazovnom centru na lokaciju na kojoj želite pohađati odabrani kurs; umesto prijavnice možete poslati dopis, teleks ili telegram; navedite punu adresu vaše radne organizacije, kod i naziv kursa, odabrani termin te ime i prezime prijavljenog kandidata.

POTVRDA PRIJAVE:

Prisustvovanje na kursu obezbeđuje samo u pismenom obliku potvrđena prijava od strane ICD; potvrdu o prijemu obavezno donesite sa sobom.

ODJAVA UČEŠĆA:

Možete se odjaviti samo pismeno, najkasnije 10 dana pred početkom kursa; nepravilnu odjavu nećemo moći da uzmemo u obzir; uplaćenu kotizaciju vam nećemo vratiti odnosno računaćemo vam punu cenu kursa.

UPLATA:

Potvrdu o uplaćenim obrazovnim uslugama (virman, uplatnica, obračunski ček ili bon za obrazovanje) pošaljite nam zajedno sa prijavnicom najkasnije 14 dana pred početkom kursa na lokaciju održavanja kursa.

Broj žiro računa i adresa:
50102-601-20686
ISKRA DELTA Ljubljana, Parmova 41

PRAVA ICD:

• ICD zadržava pravo izmene termina ili lokacije najmanje pet dana pred najavljenim početkom kursa; ICD je dužan da vas o eventualnoj izmeni obavesti pismeno.

• ICD zadržava pravo odjave kursa najmanje pet dana pred početkom ako za kurs nema dovoljno prijava.

• ICD zadržava pravo tekućeg usklađivanja cena obrazovnih usluga u skladu sa važećim zakonskim normativima.

BONOVI ZA OBRAZOVANJE:

• Kupac naših sistema dobija odgovarajući broj bonova za obrazovanje nakon plaćanja obaveza iz kupoprodajnog ugovora.

• Korisnik može kupiti bonove za naše obrazovne usluge putem posebnog ugovora sa obrazovnim centrom Delta (ICD). Kod većeg broja kupljenih bonova ICD vam priznaje određeni popust. Informacije o uslovima kupovine bonova možete dobiti na svim lokacijama ICD.

POSEBNE OBRAZOVNE USLUGE (ON-SITE):

Na vašu želju organizovaćemo posebne obrazovne usluge za koje ćemo sa vama sklopiti ugovor; ukoliko raspolažete tehničkim i prostorskim mogućnostima, kurs možemo izvesti i u vašoj radnoj organizaciji.

Očekujemo da ćete poduprti naše napore na poboljšanju organizacije obrazovnih usluga, a na obostrano zadovoljstvo prihvatili navedeni način poslovanja.

NOVI IN DOPOLNJENI TEČAJI IZ NAŠEGA DOSEDANJEGA PROGRAMA

* TEČAJI S PODROČJA JEZIKOV

  o ADK04 POSEBNOSTI COBOLA 81 NA DELTA/M
  o ADC06 POSEBNOSTI TURBOPASCALA NA CP/M

* TEČAJI S PODROČJA INFORMATIKE ZA UPORABNIKE

  o AKA04 UVOD V DELO Z RAČUNALNIKOM
  o AKA12 SISTEMI ZA PODPORO ODLOČANJU

* TEČAJI S PODROČJA OPERACIJSKEGA SISTEMA MS-DOS

  o ABD01 OSNOVE MIKRORAČUNALNIKA Z O.S. MS-DOS
  o ABD02 MS-DOS IN POMOŽNI PROGRAMI
  o AKD01 UREJEVALNIK BESEDIL WS NA O.S. MS-DOS
  o AFD06 PC PRI POSLOVNEM ODLOČANJU

TEČAJI V SODELOVANJU Z DIGITALOM

V sodelovanju z Digitalom bomo organizirali nekatere zanimive tečaje, ki jih bodo izvajali njihovi instruktorji. Dokumentacija in izvajanje tečajev bosta v angleškem jeziku.

Ponujamo vam naslednje tečaje:

* EY-2281E-LO OPERATING VAX/VMS
* EY-2282E-LO VAX/VMS SYSTEM MANAGEMENT
* EY-1004E-LO VAX-VMS PERFORMANCE TUNING
* EY-2342E-SO VAX CLUSTER MANAGEMENT
* EY-2279E-LO VAX/VMS INTERNALS LEVEL I

TEČAJI V SODELOVANJU S PERGAMON INFOTECHOM

V sodelovanju s PERGAMON INFOTECHOM (PI) vam ICD nudi vrsto tečajev te ugledne mednarodne izobraževalne institucije. Tečaji se bodo izvajali v prostorih Izobraževalnega centra Delta v Novi Gorici. PI zagotavlja tem tečajem enako kvaliteto kot v svojih centrih v Londonu, Amsterdamu in Muenchnu. ICD vam zagotavlja vse spremljajoče materiale ter simultano prevajanje v slovenski in srbohrvatski jezik.

Z željo, da bi zadovoljili vašim potrebam, smo vam za jesen 1988 izbrali naslednje tečaje:

* DISTRIBUTED DATABASE: HOW TO INTEGRATE DATA IN A MULTI-VENDOR ENVIRONMENT
* ANALYST WORKBENCHES: THE CASE ENVIRONMENT
* INFORMATION SYSTEM DEVELOPMENT TODAY AND TOMORROW
* SOFTWARE PROJECT MANAGEMENT

Vsi, ki se zanimate za tečaje PI, se čimprej informativno prijavite. V tem primeru vam bo ICD pošiljal informacije o vsebini tečajev in točnih terminih njihovega izvajanja.

Od vas, cenjeni uporabniki, pričakujemo, da boste sodelovali pri izbiri seminarjev PI. Vaše želje bomo upoštevali v razpisu seminarjev za naslednji semester. Če iz kakršnihkoli razlogov vašim željam nebi mogli ustreči, vam bomo dali na voljo ustrezne informacije in organizirali vaše izobraževanje na PI tečajih v tujini.

NOVI I DOPUNJENI KURSEVI IZ NAŠEG DOSADAŠNJEG PROGRAMA

- KURSEVI IZ OBLASTI JEZIKA

  - ADM04 SPECIFIČNOSTI COBOL-a 81 NA DELTA/M
  - ADC06 SPECIFIČNOSTI TURBOPASCAL-a NA CP/M

- KURSEVI IZ OBLASTI INFORMATIKE ZA KORISNIKE

  - ANA04 UVOD U RAD SA RAČUNAROM
  - ANA12 SISTEMI ZA PODRŠKU ODLUČIVANJU

- KURSEVI IZ OBLASTI OPERATIVNOG SISTEMA MS-DOS

  - ABD01 OSNOVI MIKRORAČUNARA SA O.S. MS-DOS
  - ABD02 MS-DOS I POMOĆNI PROGRAMI
  - AFD01 OBRADA TEKSTOVA WS NA MS-DOS
  - AFD06 PC U POSLOVNOM ODLUČIVANJU

KURSEVI U SARADNJI SA DIGITAL-om

U saradnji sa DEC-om organizovaćemo neke zanimljive kurseve koje će voditi njihovi instruktori. Dokumentacija i kursevi biće na engleskom jeziku.

Nudimo vam sledeće kurseve:

- EY-2281E-LO OPERATING VAX/VMS
- EY-2282E-LO VAX/VMS SYSTEM MANAGEMENT
- EY-1004E-LO VAX-VMS PERFORMANCE TUNING
- EY-2342E-SO VAX CLUSTER MANAGEMENT
- EY-2279E-LO VAX/VMS INTERNALS LEVEL I

KURSEVI O SARADNJI SA PERGAMON INFOTECH-om

U saradnji sa PERGAMON INFOTECH-om (PI) vam ICD nudi izbor kurseva ove uvažene međunarodne obrazovne institucije. Kursevi će se održavati u prostorijama ICD u Novoj Gorici. PI obezbeđuje tim kursevima podjednak kvalitet kao u svojim centrima u Londonu, Amsterdamu i Minhenu. ICD obezbeđuje sve popratne materijale te simultano prevođenje na slovenački i srpsko-hrvatski jezik.

Za jesen 1988 izabrali smo za vas nekoliko kurseva iz IP ponude sa željom da .udovoljimo vasim potrebama:

- DISTRIBUTED DATABASE: HOW TO INTEGRATE DATA IN A MULTI-VENDOR ENVIRONMENT
- ANALYST WORKBENCHES: THE CASE ENVIRONMENT
- INFORMATION SYSTEM DEVELOPMENT TODAY AND TOMORROW
- SOFTWARE PROJECT MANAGEMENT

Ako vas ovi kursevi zanimaju, preporučujemo vam da se sto pre informativno prijavite. U tom slučaju ICD će vam slati informacije o sadržini kurseva i tačnim terminima njihovog održavanja.

Od vas, postovani korisnici, očekujemo da ćete saradivati na izboru PI seminara. Uvažićemo vase zelje kod raspisa seminara za sledeći semestar. Ako unatoč tome nećemo moci da udovoljimo vasim željama, nudićemo vam informacije i organizaciju vaseg obrazovanja na PI kursevima u inostranstvu.

Legenda

T   - trajanje tečaja v dnevih

DOGOVOR   - tečaj se izvede, ko je dovolj kandidatov

PO   - pričetek tečaja v ponedeljek

TO   -- pričetek tečaja v torek

SR   - pričetek tečaja v sredo

ČE   - pričetek tečaja v četrtek

PE   -- pričetek tečaja v petek

Pri prijavah bodite pozorni na jezik, v katerem bo predavatelj
podajal tečaj:

┌─────┐
│ PO │   -- tečaj se izvaja v slovenskem jeziku
└─────┘

┌─────┐
│ PO │   - tečaj se izvaja v srbohrvaskem jeziku
└─────┘

Legenda

T	- trajanje kursa u danima
DOGOVOR	- kurs se održi ukoliko je dovoljno kandidata
PO	- početak kursa u ponedeljak
TO	- početak kursa u utorak
SR	- početak kursa u sredu
ČE	- početak kursa u četvrtak
PE	- početak kursa u petak

Prilikom prijave obratite pažnju na kojem će jeziku predavač održati kurs:

☐ PO - kurs se izvodi na slovenačkom jeziku

☐ PO - kurs se izvodi na srpskohrvatskom jeziku

TERMINSKI PLAN 1989

ICD NOVA GORICA

Naslov za informacije in prijave: tel. 065/23-800, 23-820
DELTA CENTER   tlx. 34372
Ivanka Devetak   fax. 23841
Kidričeva 7
65000 NOVA GORICA

INFORMATIKA

KODA	IME SEMINARJA	T	\#2 JAN	9	16	23	30	FEB 6	13	20	27	MAR 6	13	20	27	APR 3	10	17	24	MAJ 1	8	15	22	29	JUN 5	12	19	26	JUL 3	10
ASA01	OSNOVE RAČUNALNIŠTVA	5			PO						PO					PO					PO				PO					
ASA02	UVOD V STRUKTURIRANO PROGRAMIRANJE	5							PO						PO								PO					PO		
ASA06	VODENJE PROJEKTOV V AOP	5				PO								PO						PO										PO
ASA07	STRUKTURIRANA SISTEMSKA ANALIZA	5								PO								PO									PO			
ASA09	SNOVANJE PODATKOVNIH MODELOV	5		PO										PO									PO							
ASA13	PODATKOVNI SLOVAR	3									DOGOVOR																			
ASA12	STRUKTURIRANA ZASNOVA PROGRAMA	5											PO													PO				
ASA15	PROGRAMSKE PODATKOVNE STRUKTURE	5									DOGOVOR																			
ASA16	OSNOVE VARNOSTI IN ZAŠČITE PODATKOV	1									DOGOVOR																			
ASA17	TEHNOLOGIJA VARNOSTI IN ZAŠČITE PODATKOV	4									DOGOVOR																			
ASA18	VODENJE RAČUNALNIŠKIH CENTROV	3									DOGOVOR																			

JEZIKI

KODA	IME SEMINARJA	T	JAN 2	9	16	23	30	FEB 6	13	20	27	MAR 6	13	20	27	APR 3	10	17	24	MAJ 1	8	15	22	29	JUN 5	12	19	26	JUL 3	10
ADA01	OSNOVE PROGRAMIRANJA V FORTRANU	5												PO								PO								
ADA02	TEHNIKE PROGRAMIRANJA V FORTRANU	5															PO											PO		
ADA03	OSNOVE PROGRAMIRANJA V COBOLU	5		PO						PO				PO			PO				PO					PO				
ADA04	TEHNIKE PROGRAMIRANJA V COBOLU	5				PO						PO				PO						PO					PO			
ADA05	OSNOVE PROGRAMIRANJA V PASCALU	5							PO														PO							
ADA07	OSNOVE PROGRAMIRANJA V JEZIKU C	5						PO									PO								PO					
ADM01	POSEBNOSTI FORTRANA NA DELTA/M	5							PO																		PO			
ADM02	POSEBNOSTI COBOLA NA DELTA/M	3									PO												PO							
ADM03	POSEBNOSTI PASCALA NA DELTA/M	2											PO															PO		
ADM04	POSEBNOSTI COBOLA 81 NA DELTA/M	5			PO										PO										PO					
ADV01	POSEBNOSTI FORTRANA NA DELTA/V	5							PO														PO							
ADV02	POSEBNOSTI COBOLA NA DELTA/V	5	PO								PO					PO					PO					PO				
ADV03	POSEBNOSTI PASCALA NA DELTA/V	3																				PO								

INFORMACIJSKA ORODJA

KODA	IME SEMINARJA	T	JAN 2	9	16	23	30	FEB 6	13	20	27	MAR 6	13	20	27	APR 3	10	17	24	MAJ 1	8	15	22	29	JUN 5	12	19	26	JUL 3	10
APR03	IDA ORODJA	10		PO	PO					PO	PO			PO	PO						PO	PO				PO	PO			
APR04	STREŽNIŠTVO IDA BAZE	5			PO					PO					PO							PO						PO		
APM02	POD.STR.NA ZUNANJIH MEDIJIH IN RMS NA DELTA/M	5				PO					PO											PO					PO			
APV01	GENERATOR APLIKACIJ AOP NA DELTA/V	5				PO			PO					PO			PO				PO				PO					
APV02	POD.STR.NA ZUNANJIH MEDIJIH IN RMS NA DELTA/V	5						PO								PO								PO					
APV05	GENERATOR PROGRAMOV FORMATIX NA DELTA/V	3							PO																					

TERMINSKI PLAN 1989

UPORABNIŠKE APLIKACIJE NA DELTA/M IN DELTA/V

KODA	IME SEMINARJA	T	JANUAR 2	9	16	23	30	FEBRUAR 6	13	20	27	MAREC 6	13	20	27	APRIL 3	10	17	24	MAJ 1	8	15	22	29	JUNIJ 5	12	19	26	JULIJ 3	10
APM01	UPORABA UREJEVALNIKA TEKSTA EDT	2										DOGOVOR																		
APM01	DELTA SCADA/D	5										DOGOVOR																		

UPORABNIKI IN INFORMATIKA

KODA	IME SEMINARJA	T																												
ANA04	UVOD V DELO Z RAČUNALNIKOM	1										DOGOVOR																		
ANA06	INFORMATIKA ZA VODSTVENE DELAVCE	3							PO													PO						PO		
ANA11	TOVARNA PRIHODNOSTI	5										DOGOVOR																		
ANA12	SISTEMI ZA PODPORO ODLOČANJA	2										DOGOVOR																		

OPERACIJSKI SISTEM DELTA/M

KODA	IME SEMINARJA	T																												
ABM01	OSNOVE OPERACIJSKEGA SISTEMA DELTA/M	5	PO				PO				PO				PO				PO				PO							
ABM02	ARH. RAČUNALNIKOV DELTA/M IN ZBIRNI JEZIK	5								PO											PO									
ABM03	UPORABA SIST. KOMP. DELTA/M V ZBIRNEM JEZIKU	5											PO													PO				
ABM04	TEČAJ ZA OPERATERJE NA SISTEMU DELTA/M	5			PO							PO					PO								PO					
ABM05	UKAZNI JEZIK IN POMOŽNI PROGRAMI NA DELTA/M	5							PO												PO									
ABM06	UPRAVLJANJE OPERACIJSKEGA SISTEMA DELTA/M	5							PO													PO								
ABM07	SISTEMSKO PROGRAMIRANJE NA DELTA/M	5											PO															PO		

OPERACIJSKI SISTEM DELTA/V

KODA	IME SEMINARJA	T																												
ABV01	OSNOVE OPERACIJSKEGA SISTEMA DELTA/V	5	PO				PO				PO				PO				PO				PO							
ABV02	UKAZNI JEZIK DCL	5							PO							PO									PO					
ABV03	TEČAJ ZA OPERATERJE NA SISTEMU DELTA/V	5		PO						PO			PO				PO				PO									
ABV04	ARHITEKTURA PROCESORJEV LINIJE 4000	5	PO												PO															
ABV05	ZBIRNI JEZIK NA DELTA/V	5			PO											PO														
ABV06	UPORABA SIST. KOMP. DELTA/V V ZBIRNEM JEZIKU	5						PO												PO										
ABV07	UPORABA POMOŽNIH PROG. DELTA/V V APLIKACIJAH	5									PO														PO					
ABV08	UPRAVLJANJE OPERACIJSKEGA SISTEMA DELTA/V	5						PO								PO							PO					PO		
ABV09	SISTEMSKO PROGRAMIRANJE NA DELTA/V	5									PO												PO							
ABV11	NOVOSTI V DELTA/V 2.0	3											PO													PO				

OPERACIJSKI SISTEM UNIX IN SORODNI OPERACIJSKI SISTEMI

KODA	IME SEMINARJA	T																												
ABU01	OSNOVE OPERACIJSKEGA SISTEMA UNIX	5					PO											PO							PO					
ABU02	UPR. Z RAČ.TRIGLAV POD OPERAC.SISTEMOM XENIX	3							PO													PO								
ABU03	UPR. Z RAČ.TRIGLAV POD OPERAC.SISTEMOM UNIPLUS	3										PO														PO				

KOMUNIKACIJE

KODA	IME SEMINARJA	T																												
ANM01	UVOD V RAČUNALNIŠKE KOMUNIKACIJE	5					PO												PO											
ANM02	RAČUNALNIŠKE MREŽE DELTA	5								PO															PO					

DRUŽBOSLOVNA ZNANJA

KODA	IME SEMINARJA	T																												
ANA01	METODE POSLOVNEGA KOMUNICIRANJA	5										PO																	PO	
ANA03	IZOBRAŽEVANJE ZA UVAJANJE NOVOSTI	3										DOGOVOR																		

TERMINSKI PLAN 1989

EKONOMSKO PRAVNA ZNANJA

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
AEA01	PRAVNA ZASCITA PROGRAMSKIH PROIZVODOV	2												DOGOVOR																	
AEA02	TUJE POSLOVNO PRAVO	2												DOGOVOR																	
AEA03	PRAVO ZA DELO S TUJIMI PARTNERJI	2												DOGOVOR																	
AEA04	EKONOMIKA POSLOVANJA	3												DOGOVOR																	

POSLOVNA POLITIKA IN ORGANIZACIJA

AGA01	VISOKA TEHNOLOGIJA IN DROBNO GOSPODARSTVO	1												DOGOVOR																	
AGA02	OKOLJE PROIZVODNIH SISTEMOV	2												DOGOVOR																	
AGA03	STRATESKO PLANIRANJE RAZVOJA TEHNOLOGIJE	2												DOGOVOR																	
AGA04	PROIZVODNI SISTEMI IN NOVE TEHNOLOGIJE	2												DOGOVOR																	
AGA05	ORGANIZACIJA DELA IN VISOKA TEHNOLOGIJA	2												DOGOVOR																	

DELOVNO OKOLJE

AUA01	INFORMACIJSKA TEHNOLOGIJA IN VARNO DELO	2												DOGOVOR																	

ŽIVI JEZIKI

AIA01	KONVERZACIJSKI TEČAJ POSLOVNE ANGLEŠČINE	3												DOGOVOR																	

TEČAJI DEC PROGRAMA

KODA IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
		2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
EY-2281E-LO OPERATING VAX/VMS	5									DOGOVOR																			
EY-2282E-LO VAX/VMS SYSTEM MANAGEMENT	5									DOGOVOR																			
EY-1004E-LO VAX/VMS PERFORMANCE TUNING	3									DOGOVOR																			
EY-2342E-SO VAX/CLUSTER MANAGEMENT	3									DOGOVOR																			
EY-2279E-LO VAX/VMS INTERNALS LEVEL I	5									DOGOVOR																			

TEČAJI PERGAMON INFOTECH

DISTRIBUTED DATABASE	3									DOGOVOR																			
SOFTWARE PROJECT MANAGEMENT	2									DOGOVOR																			
ANALYST WORKBENCHES: THE CASE ENVIRONMENT	3									DOGOVOR																			
INFO. SYSTEMS DEVELOPMENT TODAY AND TOMORROW	3									DOGOVOR																			

ICD LJUBLJANA

Naslov za informacije in prijave: tel. 061/51-086
ICD LJUBLJANA   tlx. 31366
Neva Kamenšek   fax. 328887
Prušnikova 74
61210 LJUBLJANA-ŠENTVID

INFORMATIKA

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ASA01	OSNOVE RAČUNALNIŠTVA	5			PO								PO					PO												
ASA02	UVOD V STRUKTURIRANO PROGRAMIRANJE	5								PO											PO								
ASA07	STRUKTURIRANA SISTEMSKA ANALIZA	5															PO												
ASA08	SNOVANJE PODATKOVNIH MODELOV	5																									PO		
ASA12	STRUKTURIRANA ZASNOVA PROGRAMA	5																					PO						

JEZIKI

KODA	IME SEMINARJA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ADA03	OSNOVE PROGRAMIRANJA V COBOLU	5								PO								PO									PO		
ADA04	TEHNIKE PROGRAMIRANJA V COBOLU	5																					PO						
ADA07	OSNOVE PROGRAMIRANJA V JEZIKU C	5										PO																	

INFORMACIJSKA ORODJA

KODA	IME SEMINARJA	T													DOGOVOR															
APC02	PODATKOVNA BAZA DBASE II	3													DOGOVOR															

UPORABNIŠKE APLIKACIJE NA DELTA/M IN DELTA/V

KODA	IME SEMINARJA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
AFA01	UPORABA UREJEVALNIKA TEKSTA EDT	2				SR																							
AFA02	OBD. BESEDIL NA SISTEMU DELTA/M ALI DELTA/V	3										PO																	

UPORABNIŠKE APLIKACIJE NA MIKRORAČUNALNIKU PARTNER

KODA	IME SEMINARJA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
AFC01	PISALNI AVTOMAT IN RS	3	PO											PO															
AFC04	PARTNER V FINANČNEM POSLOVANJU	5													DOGOVOR															
AFC05	UVOD V MALE POSLOVNE SISTEME	2		PO										PO															
AFC06	GLAVNA KNJIGA	3													DOGOVOR															
AFC07	SALDAKONTI	3													DOGOVOR															
AFC08	OSNOVNA SREDSTVA	3													DOGOVOR															
AFC09	OSEBNI DOHODKI	3													DOGOVOR															
AFC11	MAT. POSLOVANJE IN FAKTURIRANJE NA PARTNERJU	5													DOGOVOR															
AFC15	PRODAJA "DUTY FREE" NA PARTNERJU	3													DOGOVOR															
AFC16	VODENJE PRODAJE "DUTY FREE" NA PARTNERJU	2													DOGOVOR															
AFC17	NAŠE POSLOVANJE	5					PO									PO													

IZOBRAŽEVANJE IN RAČUNALNIŠTVO

KODA	IME SEMINARJA	T													DOGOVOR															
ALC01	OSNOVE ŠOLSKE RAČUNALNIŠKE OPREME	3													DOGOVOR															
ALC02	APLIKACIJE V IZOBRAŽEVALNEM PROCESU	2													DOGOVOR															

OPERACIJSKI SISTEM CP/M

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABC01	OSNOVE MIKRORACUNALNIKA PARTNER	2				PO											PO													
ABC02	OSNOVE OPERACIJSKEGA SISTEMA CP/M	5							PO												PO									
ABC03	ARHITEKTURA MIKROPROCESORJEV IN ZBIRNI JEZIK	5								PO																				
ABC04	UPORABA SIST.KOMPONENT CP/M V ZBIRNEM JEZIKU	3																PO												
ABC06	SISTEMSKO PROGRAMIRANJE NA CP/M	3																				PO								

OPERACIJSKI SISTEM DELTA/M

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABM01	OSNOVE OPERACIJSKEGA SISTEMA DELTA/M	5	PO											PO								PO								
ABM02	ARH. RACUNALNIKOV DELTA/M IN ZBIRNI JEZIK	5							PO																					
ABM03	UPORABA SIST. KOMP. DELTA/M V ZBIRNEM JEZIKU	5									PO																			

KOMUNIKACIJE

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
AAA01	UVOD V RACUNALNIŠKE KOMUNIKACIJE	5			PO																		PO							

OPERACIJSKI SISTEM MS-DOS

KODA	IME SEMINARJA	T	JANUAR					FEBRUAR				MAREC				APRIL				MAJ					JUNIJ				JULIJ	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABD01	OSNOVE MIKRORACUNALNIKA Z MS-DOS	2		PO				PO				PO					PO										PO				
ABD02	MS-DOS IN POMOŽNI PROGRAMI	5				PO																							PO	
AFD01	UREJEVALNIK BESEDIL WS NA MS-DOS	3								PO																				
AFD06	PC PRI POSLOVNEM ODLOČANJU	3								PO																				

ICD BEOGRAD

Adresa za informacije i prijave: tel. 011/149-762
OBRAZOVNI CENTAR DELTA   tlx. 12584
Zorica Stavlić   fax. 149725
Narodnih heroja 42
11000 BEOGRAD

JEZICI

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ADA01	OSNOVE PROGRAMIRANJA U FORTRANU	5											DOGOVOR																	
ADA03	OSNOVE PROGRAMIRANJA U COBOLU	5			PO												PO								PO					
ADM02	SPECIFIČNOSTI COBOLA NA DELTA/M	3							PO																					
ADM04	SPECIFIČNOSTI COBOLA 81 NA DELTA/M	5								PO											PO									
ADV01	SPECIFIČNOSTI FORTRANA NA DELTA/V	5											DOGOVOR																	

INFORMACIONI ALATI

KOD	IME SEMINARA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
APA03	IDA ALATI	10								PO	PO																PO	PO		
APM02	STRUK.POD.NA EKSTER.MEDIJIMA I RMS NA DELTA/M	5										DOGOVOR																		
APV01	GENERATOR APLIKACIJA AGP NA DELTA/V	5						PO											PO											

POSLOVNE APLIKACIJE NA MIKRORAČUNARU PARTNER

KOD	IME SEMINARA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
AFC02	OBRADA TEKSTA TP	3											DOGOVOR																	
AFC04	PARTNER U FINANSIJSKOM POSLOVANJU I ADM.	5			PO													PO												
AFC06	GLAVNA KNJIGA	3		SR													SR													
AFC07	SALDAKONTI	3										SR																		
AFC08	OSNOVNA SREDSTVA	3																				SR								
AFC11	MATERIJALNO POSLOVANJE I FAKTURISANJE	5				PO												PO												
AFC12	FAKTURISANJE KOMUNALNIH USLUGA	3									SR																			

OPERATIVNI SISTEM CP/M

KOD	IME SEMINARA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABC01	OSNOVE MIKRORAČUNARA PARTNER	2	PO							PO						PO					PO									
ABC02	OSNOVE OPERATIVNOG SISTEMA CP/M	5						PO															PO							

OPERATIVNI SISTEM DELTA/M

KOD	IME SEMINARA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABM01	OSNOVE OPERATIVNOG SISTEMA DELTA/M	5		PO												PO								PO						
ABM04	KURS ZA OPERATERE NA SISTEMU DELTA/M	5										DOGOVOR																		
APM01	GLAVNA KNJIGA NA DELTA/M	3										DOGOVOR																		
APM02	MATERIJALNO POSLOVANJE I FAKTUR. NA DELTA/M	3										DOGOVOR																		
APM03	SALDAKONTI NA DELTA/M	3										DOGOVOR																		

OPERATIVNI SISTEM DELTA/V

KOD	IME SEMINARA	T	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ABV01	OSNOVE OPERATIVNOG SISTEMA DELTA/V	5	PO									PO											PO							
ABV02	KOMANDNI JEZIK DCL	5			PO								PO																	

TERMINSKI PLAN 1989

Beleške:

ICD NOVI SAD

INFORMATIKA

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ASA01	OSNOVE RAČUNARSTVA	5	DOGOVOR																											
ASA02	UVOD U STRUKTURNO PROGRAMIRANJE	5	DOGOVOR																											

JEZICI

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ADA01	OSNOVE PROGRAMIRANJA U FORTRANU	5									PO																			
ADA02	TEHNIKE PROGRAMIRANJA U FORTRANU	5										PO																		
ADA05	OSNOVE PROGRAMIRANJA U PASCALU	5																				PO								
ADC01	POSEBNOSTI FORTRANA NA CP/M	3														SR														
ADC05	PROGRAMIRANJE U BASICU NA CP/M	5											PO																	
ADC06	POSEBNOSTI TURBOPASCALA NA CP/M	3																					SR							

INFORMACIONI ALATI

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
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APC01	PROGRAMSKI GENERATOR FORMATIX NA CP/M	3																SR												

OPERATIVNI SISTEM CP/M

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
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ABC01	OSNOVE MIKRORAČUNARA PARTNER	2	DOGOVOR																											
ABC02	OSNOVE OPERATIVNOG SISTEMA CP/M	5																									PO			

KORISNIČKE APLIKACIJE NA MIKRORAČUNARU PARTNER

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
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APC01	AUTOMAT ZA PISANJE I RS	3	DOGOVOR																											
APC04	PARTNER U FINANSIJSKOM POSLOVANJU I ADM.	5	DOGOVOR																											
APC05	UVOD U BAZE POSLOVNE SISTEME	2	PO													PO														
APC06	GLAVNA KNJIGA	3	SR													SR														
APC07	SALDAKONTI	3		SR														SR												
APC08	OSNOVNA SREDSTVA	3	DOGOVOR																											
APC09	LIČNI DOHCI	5							PO														PO							
APC11	MATERIJALNO POSLOVANJE I FAKTURISANJE	5	DOGOVOR																											

OPERATIVNI SISTEM DELTA/M

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
ASM01	OSNOVE OPERATIVNOG SISTEMA DELTA/M	5		PO																							PO			
ASM04	SEMINAR ZA OPERATERE NA DELTA/M	5							PO																		PO			

TERMINSKI PLAN 1989

OPERATIVNI SISTEM DELTA/V

KOD	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
A8V01	OSNOVE OPERATIVNOG SISTEMA DELTA/V	5						PO															PO							
A8V02	KOMANDNI JEZIK DCL	5																										PO			
A8V03	KURS ZA OPERATERE NA DELTA/V	5						PO																PO							

OPERATIVNI SISTEM MS-DOS

A8D01	OSNOVE MIKRORAČUNARA SA MS-DOS	5	DOGOVOR

ICD SARAJEVO

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Vojvode Putnika 14 C
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OPERATIVNI SISTEM DELTA/M

ŠIF	IME SEMINARA	T	JANUAR					FEBRUAR				MART				APRIL				MAJ					JUNI				JULI	
			2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10
A2M01	OSNOVE OPERATIVNOG SISTEMA DELTA/M	5	DOGOVOR																											
A2M04	KURS ZA OPERATERE NA DELTA/M	5	DOGOVOR																											

Beleške:

ICD SKOPJE

Adresa za informacii i prijavi: tel. 091/224-811
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Venera Janevska   fax. 223603
Ulica 50. divizija 20
91000 SKOPJE

INFORMATIKA

KOD	IME NA SEMINAROT	T	JANUARI 2	9	16	23	30	FEBRUARI 6	13	20	27	MART 6	13	20	27	APRIL 3	10	17	24	MAJ 1	8	15	22	29	JUNI 5	12	19	26	JULI 3	10
ASA01	OSNOVI NA SMETACKA TEHNIKA I INFORMATIKA	5																PO										PO		
ASA02	UVOD VO STRUKTURIRANO PROGRAMIRANJE	5		PO																						PO				
ASA05	VODENJE NA PROEKTI VO AOP	5										DOGOVOR																		
ASA07	STRUKTURIRANA SISTEMSKA ANALIZA	5										DOGOVOR																		
ASA12	STRUKTURIRAN DIZAJN NA PROGRAMI	5										DOGOVOR																		

JAZICI

KOD	IME NA SEMINAROT	T	JANUARI 2	9	16	23	30	FEBRUARI 6	13	20	27	MART 6	13	20	27	APRIL 3	10	17	24	MAJ 1	8	15	22	29	JUNI 5	12	19	26	JULI 3	10
ADA03	OSNOVI NA PROGRAMIRANJE VO COBOL	5				PO								PO									PO							
ADA04	TEHNIKI NA PROGRAMIRANJE VO COBOL	5							PO								PO										PO			
ADV02	OSOBENOSTI NA COBOL ZA DELTA/M	3									PO										PO								PO	
ADV02	OSOBENOSTI NA COBOL ZA DELTA/V	5										PO										PO								

OPERATIVEN SISTEM DELTA/M

KOD	IME NA SEMINAROT	T	JANUARI 2	9	16	23	30	FEBRUARI 6	13	20	27	MART 6	13	20	27	APRIL 3	10	17	24	MAJ 1	8	15	22	29	JUNI 5	12	19	26	JULI 3	10
ABM01	OSNOVI NA OPERATIVEN SISTEM DELTA/M	5		PO									PO													PO				
ABM04	KURS ZA OPERATORI NA DELTA/M	5						PO								PO														
ABM05	KOMANDEN JAZIK I POMOSNI PROGRAMI NA DELTA/M	5																	PO											
ABM06	UPRAVUVANJE NA O.S. DELTA/M	5										DOGOVOR																		
ABM07	SISTEMSKO PROGRAMIRANJE NA DELTA/M	5										DOGOVOR																		

OPERATIVEN SISTEM DELTA/V

KOD	IME NA SEMINAROT	T	JANUARI 2	9	16	23	30	FEBRUARI 6	13	20	27	MART 6	13	20	27	APRIL 3	10	17	24	MAJ 1	8	15	22	29	JUNI 5	12	19	26	JULI 3	10
ABV01	OSNOVI NA OPERATIVEN SISTEM DELTA/V	5			PO							PO										PO								
ABV03	KURS ZA OPERATORI NA DELTA/V	5								PO								PO								PO				

KORISNICI I INFORMATIKA

KOD	IME NA SEMINAROT	T																												
ASA08	INFORMATIKA ZA RAKOVODNI KADRI	3										DOGOVOR																		

TERMINSKI PLAN 1989

Beleške:

Software Project Management

January - July 1989

Nova Gorica

- **State of the art review of Software Project Management techniques**
- **Building a Software Project Management infrastructure**
- **Using software cost estimating methods and models**
- **Selecting software projects from the Corporate Plan.**

A two day intensive seminar on the most up to date project management techniques

PI

PERGAMON INFOTECH

Software Project Management

January - July 1989

Nova Gorica

Most managers understand the importance of good project management, but how many have the grounding in the fundamentals or are aware of the rapid advances which have been made in the practice?

This two day seminar provides a unique opportunity to understand the basics of effective project management and reviews the state of the art in project management techniques. In particular it emphasises why the need for software project management, the importance of understanding system life-cycles, setting up a good infrastructure, estimating and organising staff and most important taking command when the going gets rough.

At a time when Information Systems have become bigger and more complex and there is a greater demand for systems which can provide businesses with competitive edge, it is even more critical that deliverables are brought in on time and within budget. Having brought methodologies and automation into the analysis and design processes many organisations are now aware of the need to bring more structure and control to software project management. If that is your concern, then you must attend this seminar.

Key issues addressed

- How to plan for success on a software project and be successful
- Customer, company and user requirements - what are the differences and how do you satisfy each?
- What are the elements of a good software management plan?
- How to manage the work-in-process
- Determining the resource requirements
- How to organise and resource projects to take advantage of talent and teamwork.
- How to keep people motivated when times get tough
- Over-control and under-control: how to achieve the right balance
- How to get configuration management and quality control to work for you instead of against you
- How to insert management metrics, tools and techniques into your organisation without causing a revolution

Who should attend:

- Senior and line management involved in strategic planning
- Managers, team leaders and lead engineers involved in software development projects who wish to improve their management skills
- Those individuals who wish to learn the latest advances in the state of the art of software project management
- Those individuals who wish to improve their skills, knowledge and abilities in the areas of practical software planning and control.

PN ASSOCIATES OY

Presenter

Donald J Reifer is one of the leading figures in the software engineering and management field with over 20 years of progressive experience with both government and industry. He is well versed in the practice of strategic planning, organisational development, and project management of software projects. While with the US Aerospace Corporation, Mr Reifer supervised a staff of over 20 engineers who were tasked with managing 38 contractors developing over 20 million lines of operational software valued in excess of $800 million. Currently, Mr Reifer is capitalising on his experience as President of RCI, an internationally recognised consulting firm. He is working with many Fortune 500 companies to improve their use of software engineering and information management technology. Mr Reifer gained a Bachelor's Degree in Electrical Engineering from Newark College of Engineering, and a masters degree in Operations Research from the University of Southern California. Mr Reifer has had published over 100 technical articles and written five books on software engineering.

2 day programme

1 Introduction

As information systems become bigger and more complex, the ability of management to deliver acceptable products on time and within budget becomes paramount to success in most business enterprises. The motivation for improved software project management is generally understood by all concerned. Yet, most managers working in the field are neither grounded in the fundamentals or have not had the time to keep up with the rapid advances being made in the state of the practice. This opening session corrects these problems by introducing delegates to the topic of software project management and amplifying its necessity. The session also reviews the state of the art and shows what others are doing to improve it.

- Need for and utility of software project management
- Why is software so hard to manage?
- Software management and the system life-cycle
- Seven problems of software project management
- Understanding the real job of the software project manager
- Acting as a catalyst to get things done.

2 Understanding the requirements

To do a good job of planning, one must have a good idea of what it is that they are trying to build. Yet, defining the requirements continues to be one of challenges plaguing the software manager. 'How do you do it?' and 'Can you use some of the new CASE and consensus methodology to do it well?' are questions often heard as a project is unfolding. Because requirements and plans are typically generated in parallel, attention will be placed on this important topic during this session from a project manager's viewpoint.

- What are requirements and why are they important?
- Characteristics of a good specification
- Requirements methods and automated aids
- CASE and consensus approaches evaluated
- Requirements questions and answers.

3 Establishing the project infrastructure

Once the requirements are stabilised, planning can commence. Classical tools and techniques can be employed to develop those task plans that allow the work in process to be controlled at the milestone level. The emphasis of this session is placed on showing how to build a control infrastructure for your project using a Work Breakdown Structure. The major elements of a successful plan are also highlighted.

- An overview of available planning and control tools
- Work breakdown structure concepts and practices
- 'How to' create meaningful project plans
- Meaningful configuration management and quality assurance
- Understanding the management indicators and reports
- Key planning questions and answers.

4 Developing realistic estimates

Determining the economic as well as the technical feasibility of plans is one of the software manager's primary responsibilities. To do this, managers must be able to develop and validate cost and schedule estimates quickly and accurately. They must also be able to allocate workforce to schedules that are aggressive and exploit parallelism. This session shows delegates how to improve on estimating, budgeting and scheduling. It is pragmatic and relies on quick-and-dirty approaches that seem to work when time is at a premium.

- Estimating, budgeting and scheduling approaches
- Software cost estimating methods and models
- WBS approaches to estimating cost and schedule
- The COCOMO and SoftCost-R models as examples
- A poor man's guide to estimating software costs
- Estimating questions and answers.

5 Organising and staffing the project team

Structuring roles on the project and getting the right people to fill them is always a difficult task. This session attempts to make the task easier by providing delegates with valuable hints on recruiting, evaluating and motivating people to get the job done. The session also focuses on teams and provides insight into how to build and exploit team approaches as the organisation is being built.

- Up the organisation - which way and how fast
- Organising and recruiting the project team
- Building highly productive synergistic project teams
- 'How to' recruit the right people and keep them focused
- Motivation techniques - a blend of east and west
- Organising and staffing questions and answers.

6 Taking command as the going gets tough

Once the project starts, progress towards realising established goals must be tracked as the status of the development is ascertained. Technical performance measures must be analysed so that variances as accepted norms can be used to pinpoint potential problem areas. Plans must be modified and actions must be taken to handle contingencies which always seem to arise at the wrong times. This session focuses on measurement techniques that can be used to improve control especially at the critical moments. It talks about people, feedback loops, under-control and over-control.

- Elements of effective project control
- Measurement concepts and principles
- 'How to' know where you are and where you are going
- Assessing performance - the quantitative way
- Developing an effective early warning system
- Understanding the management metrics and indicators
- Using computer-aided management techniques
- Making configuration management work for you
- Employing quality control as an engineering activity
- Control questions and answers.

7 Recovering from potential disasters

Most projects are not lucky enough to escape at least one or two disasters. Knowing what to do when the unspeakable occurs can save time, effort and often your job. This session stresses the use of proven risk management techniques to help solve real project problems.

- Risk management as a technique to eliminate disasters
- What do you do when disaster strikes your project?
- Adding staff to a late project often makes it later
- Seeking easy fixes does not work on difficult problems.

8 A successful project

There is nothing more refreshing than being on a successful project. This session discusses the lessons learned over the last five years as an interplanetary Orbiter was built to survey our solar system. What was tried, what worked and what did not work will be described as the history of the software development is discussed step-by-step. An analysis of what led to success is made as a post-mortem of the project is detailed.

- Overview of the project, its goals and its subsystems
- Phase-by-phase review of key project decisions
- Summary of lessons learned often the hard way
- Post-mortem of the results as viewed by the sponsor

9 The corporate action plan

Improving your ability to plan and control a software project takes time, talent and skill. Yet, there are so many factors involved that often we do not know what to do with the masses of information that we heard at seminars like this one. This session corrects this problem by recommending actions that you can recommend to incorporate some of the ideas advanced into your corporate culture. The fundamental premise of the action plan is: 'Do the simple things first, they tend to yield the most benefits'.

- Where should organisations focus their efforts?
- Ten things that every manager should know about software
- Management and metrics: getting and using the numbers
- Understanding and capitalising on the seminar's key points
- Checklist: what to do when you get back to the office.

Analyst Workbenches: The CASE environment

January - July 1989

Nova Gorica

The commercial environment is volatile and rapid response to end-user demands is crucial. The tasks of analysis are long overdue for automation. Organisations are demanding ever more complex and integrated application systems. Methodologies provide formal structured approaches to problem determination and solution design. But these methods involve an added number of time consuming tasks.

Computer-aided Software Engineering (CASE) is now the accepted term for using technology for the software development process. The tools are evolving towards a more comprehensive approach to automating the full life-cycle.

Recently, CASE technology has become the focus of much attention. Vendors claim that these tools will greatly increase productivity. But do available products really meet the needs of analysts? Which tasks should they support? Can they be used to evaluate software packages? What are the problems of integrating workbenches into existing working practices? Are they useful outside the framework of a systems development methodology? Are vendors attempting to supply more functions than current hardware can support? How can your organisation gain the maximum benefit from these tools? During this event Vaughan Merlyn examines the products, techniques and full potential of CASE technology.

Delegates are invited to attend informal demonstrations of the CASE products following the last session on the second day, providing an opportunity for further interaction with the product vendors.

This seminar features Hi-tech demonstrations of the comparative capabilities of each of the featured products.

Key issues addressed

- What productivity gains can be expected from the use of CASE products?
- Will the balance between buying packages and bespoke development tilt?
- What stages of the system development life cycle do these tools support?
- What products are currently available?
- How are they different?
- Can current hardware really support these tools?
- Where does CASE fit into the overall software architecture?
- How will working practices have to change?
- As methods evolve will current products become obsolete?
- What analysis methods do they support?

DCI's activities

DCI is an international leader in high technology education and management consulting.

Specialising in DBMs, Fourth and Fifth Generation languages, data communications, and programming and applications development technologies. DCI sponsors seminars and conferences in these fields throughout the world. DCI conferences include the National Database and 4th and 5th Generation Languages Conference, National Connectivity Conference on Local Area Networks and Micro/mainframe Links, Computer-aided Software Engineering (CASE) Conference, Artificial Intelligence Conference and Software Futures: An Executive Forum.

Analyst Workbenches: The CASE environment

January - July 1989

Nova Gorica

See structured demonstrations of each analyst workbench product applied to the same business problem

CASE in action

- **You will learn about the base concepts in applying analyst workbenches to the systems development cycle**

- **You will see practical examples of how to automate systems development using analyst workbench products**

The potential of analyst workbenches is much greater than merely increasing analyst productivity. In this three-day event, Vaughan Merlyn presents a detailed examination of the major products, implications, selection criteria and techniques required to exploit the benefits of these tools.

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PERGAMON INFOTECH

Presenter: Vaughan P Merlyn

Vaughan Merlyn is Chairman CASE Research, Inc - an independent consulting firm. He is a recognised authority on the subject of software development automation and is the author of the widely acclaimed research paper 'Application development systems - the comparative consumer report'. He has led public seminars on software development technologies internationally, and is a frequent contributor to the trade press. He is on the editorial review board of 'Systems user magazine' and is a popular speaker at conferences and conventions. For the last year he has been directing, in conjunction with Paul Hessinger and Computer Task Group, 'The application development research forum' - a major research study into the practical implementation of Computer-aided Software Engineering (CASE) and advanced application development techniques within IBM mainframe installations in North America. He is author of a major report about analysis/design workbench products, which was due to be published in December 1987. He is also co-authoring a text book on application productivity, to be published in 1988.

Programme detail

The technologies and methods for automating software development are now frequently referred to as Computer-aided Software Engineering (CASE). In practice, however, this term embraces a wide variety of very different approaches to the software development processes.

The unique format of this seminar is designed to help delegates understand all the implications of CASE approaches to analysis and design and to distinguish between the available products.

This seminar will lead the CASE vendors through a structured demonstration, the guidelines of which describe a model business problem and a scenario for analysis and design. Each vendor will be led through this scenario by Vaughan Merlyn to show how their particular product would contribute to the analysis and design activities. Delegates will be able to compare product's approaches to each phase of the system development life-cycle, recognise their strengths and weaknesses, and determine the approach which best fits their company's needs.

Day one

Vaughan Merlyn will lead delegates through solid, practical education in the fundamentals of CASE technology. He will provide in-depth information on available CASE analysis/

design products and methods and will use the concept o Information Systems Architecture (ISA) as a model to exp the role of CASE and the concepts of software engineerin This architecture model will form the basis for the structur demonstrations of product capabilities on days two and three.

Days two and three

Although CASE products may seem similar at a superficia level, the approaches and capabilities of the various products differ significantly. The issue here is not simply t 'best product' or even the 'most powerful product', but rat the combination of CASE technology, the development environment, the target application environment and the company's ability to absorb the new CASE methods. Day: two and three will provide a framework for comparing CAS approaches to ensure the best possible product fit.

The vendor demonstration sessions will be held in consecutive 90 minute segments, each led by Vaughan Merlyn. After each demonstration, delegates will have the opportunity to question vendors about their products more specifically. At the end of day three, the presenter will give short recap and comparison of the products and their contribution to the analysis and design activities.

Seminar outline

Session 1 - The systems engineering life-cycle

As technology and methods are evolving, the term CASE is shifting from an emphasis on the early software development life-cycle phases of analysis and design towards a more comprehensive approach to automating the full life-cycle. This full life-cycle perspective is important to maximising software development productivity and quality, and has critical practical implications on the implementation of CASE. This session examines the issues of CASE and life-cycle automation, and discusses:

- The systems engineering life-cycle
  - basic concepts and terminology
  - relationship between methodology, technique and tool
  - comparison between CASE and traditional development approaches
  - impact of the systems engineering life-cycle
- The ISA
  - concepts and terminology
  - relationship between ISA and CASE
- Structured techniques and diagramming
  - diagram types
  - diagramming issues
- Understanding the implications of CASE
  - methodology implications
  - technology implications
  - design implications
  - implications for target application.

Session 2 - Automating systems development with CASE

Session 2 examines the application development as an 'application' and the opportunities for automation. The session then examines the aspects and dimensions of CASE technology and methods to support the application development application and provides a framework for comparing CASE approaches to ensure the best possible product fit for a given development environment. This session will discuss:

- The application development 'application'
- Dimension of automation - data, process and project
- Coupling CASE with code development
- A 'model' CASE product
- The integrated CASE approach versus the component approach
  - what does real integration mean?
  - the advantages of integrated CASE
  - the disadvantages of integrated CASE
  - current realities with integration
- Comparison of CASE products by product scope and depth
- Comparison of CASE products by methodology content
- Technology implications of CASE products
- Detailed product comparisons.

Session 3 - Making the transition to CASE

CASE is as much about methods and procedures as it is about technology. For most organisations, CASE will mandate significant changes to software development methodology and this, in turn, requires careful attention to the human dimension. Session 3 examines the issues involved in making the transition from traditional development approaches to CASE, and discusses:

- The dimensions of change
  - method change
  - technology change
  - human change

- A framework for implementing CASE
  - transition strategies
  - development 'waves of change'
- Managing organisational change
  - change issues
  - change roles
  - critical success factors for CASE implementation.

Session 4 onwards - Individual structured product demonstrations

Each product vendor will have been provided, in advance, with a description of a model business problem and a scenario for analysis and design. Each of these structured demonstration sessions will provide vendors with the opportunity to demonstrate exactly what their offering contributes to the analysis and design activities and how it is used to achieve its contribution.

Summary and the future

This final session will briefly evaluate the products, examine the impact on working methods and discuss the changing nature of application development:

- Current trends
- Problems to be resolved
- The next two years

Vendor/products will include:

McDonnell Douglas Information Systems Ltd - ProKit*WORKBENCH

This is a PC-based tool which automates the application of structured techniques to the planning, analysis and design phases of the system life-cycle. ProKit*WORKBENCH graphically supports data flow diagrams, entity/relationship diagrams, structured charts and prototyping all linked to an integral data dictionary. Full reporting, multi-user and import/export features are also incorporated.

John Blakeley Management Services Limited - TIP DEFINE

TIP DEFINE is the business analysis and requirements definition component of the TIP technology set. The set allows organisations to substantially reduce the total cost of developing and subsequently maintaining effective information systems which contribute directly to organisational goals and objectives.

James Martin Associates - IEF

The IEF is an integrated CASE tool that completely automates the entire systems development life-cycle - planning, analysis, design, generation and ongoing maintenance. It consists of a powerful mainframe-based encyclopaedia and systems generators allied to PC-based analysis and design tool sets.

LBMS plc - AUTO-MATE Plus

LBMS will be demonstrating the latest version of AUTO-MATE Plus, the LBMS CASE tool. Key benefits from AUTO-MATE Plus include significantly improved productivity and quality and valuable steps toward bringing projects in on time and to budget.

Distributed Database:

how to integrate data in a multi-vendor environment

January- July 1989

Nova Gorica

If you need to know....

- **How to link incompatible DP islands**
- **Approaches to achieving data security**
- **Pragmatic strategies and techniques to obtain the benefits of distributed databases**
- **Distributed database planning and management**

....then you should attend this seminar

This seminar covers the important aspects of distributed database in detail. Delegates will leave fully prepared to implement a distributed database system in their own environment.

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Distributed Database:

how to integrate data in a multi-vendor environment

January - July 1989

Nova Gorica

The current situation

The hardware and software buying sprees of the early 1980s and the swings to and from centralised to decentralised DP have resulted in an enormous proliferation of hardware and software products. This has created DP islands within organisations that are separated not only by vendor-induced incompatibilities, but also by unsynchronised and inconsistent data. Distributed database is an approach to linking incompatible DP islands together so that there appears to be a single system running a single database.

There is no doubt that distributed database has immense potential for cost/benefit and productivity pay-offs. However, it is all but impossible for most to consider going back to square one and developing a single-vendor approach to distributed databases. Indeed, even if this were possible, the single vendor solution has serious economic and technical deficiencies and certain problems of data synchronisation would remain.

The solution is to create an application program development environment that operates on the existing databases independent from the operating systems, database management systems (DBMSs), data communications and hardware resources employed. All that is needed is a common program language such as COBOL and non-procedural approaches to data referencing, data communications and data assurance. This seminar will provide you with the pragmatic strategies and techniques needed to obtain the benefits of distributed database.

What you will learn:

The first day of this topical seminar presents an overview of the key issues of distributed database concepts and design. In addition, the differences between distributed databases, centralised DP, distributed DP and other approaches to resolving computing problems and enhancing DP productivity will be discussed, together with the management considerations for the operation of a distributed database network.

The remaining two days of the seminar focus on the technological and linguistic details necessary for actually creating a distributed database system. In addition a unique, highly simplified approach to data security is presented that is entirely dictionary dependent and completely independent of any vendor software.

Who should attend:

- Managers and technicians with software/hardware responsibilities
- Systems and strategic planners
- Consulting and sales support staff
- Data resource managers
- Application system designers
- Database administrators
- Data architects.

DCI's activities

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Presenter

Leo Cohen
*President and founder,
Computing Productivity
Inc, US*

Leo Cohen is President and founder of Computing Productivity Inc. He is a fundamental contributor to the theory and practice of distributed database architectures, having invented a number of new technologies to solve distributed database problems. Mr Cohen has been responsible for a number of important software contributions including early software creations for service analysis in database environments and automated code generation techniques for IMS. Previously he was founder and principal consultant for Performance Development Corporation.

3-day programme

Day 1
Issues and requirements

1 Basic issues
- Distributed database versus distributed DP
- Pure distributed database
- Lockout, deadlock and synchronisation
- Mixed vendor environments
- Limitations and pay-offs.

2 Distributed database realities
- The single system view
- Pragmatic compromises
- Micros in the network.

3 Distributed database architecture requirements
- Information models and data models
- Function, information and organisation
- User views and program views
- Database distribution criteria
- Requirements for a distributed architecture.

4 Data security and the domain concept
- Levels of security
- Points of application
- Data security objectives and requirements
- The domain concept.

5 Vendor independence requirements
- Non-procedural data and terminal referencing
- Entity Relationship (E-R) view of a distributed database
- Application level data dictionary
- Application level software
- Portability and pay-offs.

6 Role of the data dictionary
- Basic dictionary functions
- Dictionary system configurations
- Data dictionary distribution.

7 Data resource management
- Centralised versus decentralised development
- Data resource management responsibilities
- Structure and organisational location.

Days 2 and 3
Problems and solutions

1 Distributed database goals
- Mixed vendor systems
- Programmer/hardware and software/architecture independence
- Network-wide data integrity
- Immediate automatic data synchronisation.

2 Data security
- Element-oriented rules-based security
- Security domains
- Distributed database requirements.

3 Data integrity
- Trans-network data referencing
- Programmed block transfers
- Synchronised data
- Failure management
- Data integrity requirements.

4 Network communication
- Network interface software
- Symbolic destinations
- Integrity issues
- Network communications requirements.

5 Application development
- Non-procedural data referencing
- Terminal and programming languages
- Some special distributed database languages
- Portability
- Requirements for distributed database.

6 Function architecture
- Local node functions
- Inbound system functions
- Outbound system functions
- Event transaction functions
- System utilities.

7 Primary transaction flows
- On-demand reference
- Synchronous update
- Block data transfer.

8 Database distribution principles
- The information sharing matrix
- E-R data models
- Identifying and locating domains
- Distribution criteria.

9 Data dictionary architecture
- Basic dictionary entities
- E-R dictionary model
- Primary dictionary processes
- Dictionary distribution trade-offs

3-day programme

Day 1
Issues and requirements

1 Basic issues
* Centralised database versus distributed DB
* Pure distributed database
* Remote access and synchronisation
* Mixed access environments
* ...

2 Distributed database models
* The single system view
* Networ...
* ...

3 Distributed database architecture requirements

4 Data security and the domain concept

5 ...

6 Role of the data dictionary

7 Data resource management

Days 2 and 3
Problems and solutions

1 Distributed database goals
* Mixed vendor systems
* Programmer/hardware and software/architecture independence
* Various node data integrity
* Immediate access for data synchronisation

2 Data locking
* Commit on send
* Deadlocks
* ...

3 Data integrity

4 Network communications

5 Application development

6 Function architecture

7 Primary transaction flows

8 ...

9 Data schema / architecture

Information Systems Development Today and Tomorrow

January - July 1989

Nova Gorica

- ## Harnessing the technology to improve systems development

- ## Integrating systems now to prepare for the next generation

- ## Diagnosing the needs of the organisation

- ## Preparing the support environment

- ## Intelligent tools and the future scenario.

A three day in-depth examination of systems development for the Fourth and Fifth Generation.

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Information Systems Development Today and Tomorrow

January-July 1989

Nova Gorica

'Information Technology is the means by which management may improve the organisation of the enterprise.'

Paul A Strassmann

Computers are increasingly being used for more innovative purposes within business organisations. The move away from simply automating operational procedures to harnessing technology in the pursuit of competitive advantage calls for a radical evaluation of organisational goals, objectives and activities. Under these conditions the processes of requirements analysis and systems design become much more complex and demands ever greater knowledge and skill on the part of analysts and designers.

However, many organisations are stuck in a vicious circle of poor analysis leading to the need for continual correction and maintenance, and hence inadequate analysis of new systems. This has led to an increasing concern with the practice of systems analysis and with improving the tools and techniques available to the analyst. Individual tools such as data dictionaries and graphics packages has now given way to a concentration on analyst workbenches integrated project support environments and CASE products which attempt to integrate such tools in a meaningful way.

The crucial question facing organisations at present, is how can IT make systems professionals more productive? Automating the systems development process offers the potential for both increasing the efficiency of designers and, more crucially, increasing their effectiveness. Studies have shown, however, that simply introducing new working methods or advanced technology is not sufficient in itself. There are a number of features which must be considered alongside the choice of an appropriate development methodology and its associated technology.

This seminar will consider those features and provide a coherent framework within which managers can select and implement a successful development environment for producing strategic information systems which will support business organisations in a rapidly changing world.

Key issues addressed:

- The nature of Fourth and Fifth Generation application systems
- Identifying organisational requirements
- System development methodologies, methods and tools
- The successful introduction of new working methods
- The management of change
- Integrating 'problem solvers' and 'problem owners'
- Preparing for intelligent tools.

Who should attend:

- DP/IS managers
- Business IS planners
- User managers concerned with the introduction of technological systems
- Senior DP/IS personnel
- Systems analysts and designers
- Developers of automated approaches
- IT specialists and consultants.

Presenter

Bob Wood
*Lecturer and Consultant,
Bristol Polytechnic*

Bob Wood has worked in computing for some 17 years in commercial programming, systems analysis and project management. He has worked extensively in the field of system development methodologies and automated tools and has written a number of books on these subjects. He is currently involved in a number of projects applying expert systems approaches and parallel architectures to problems in management support systems within the financial and engineering sectors.

3-day programme

1 The future environment for IS development

Organisations and the environments that they exist within are becoming increasingly complex. Thus the information systems required under such circumstances are themselves less structured than those developed previously

- Strategic Information Systems and gaining competitive advantage
- MIS, Decision Support and Expert Systems
- Office communications.

2 Determining strategies for IS development

As well as attempting to develop new kinds of application systems, organisations have to maintain their existing investment in software and decide on an appropriate strategy for moving towards the future technologies

- Developing flexible systems to match a changing environment
- Migrating from existing to future systems
- Reconciling development and maintenance.

3 Diagnosing the needs of the organisation

More sophisticated, multiperspective views of organisational behaviour are needed if information systems are to match more closely the organisational reality within which they function

- Models of organisational structure, process and culture.

4 Eliciting managerial goals and requirements

Approaches used for identifying and representing the goals and requirements of executives and managers.

- SWOT
- CSF
- Viewpoint analysis.

5 Engineering information systems

A framework for assessing the ever proliferating range of development methodologies, and for developing a selection strategy on behalf of an organisation

- Methodologies eg IEM, SSADM, JSD
- Methods eg data modelling, functional recomposition, event modelling
- Techniques eg DFD, ELH, EAR.

6 Automating the system development process

Harnessing technology in order to improve both the efficiency and effectiveness of system development is now a priority issue

- IPSEs and CASE
- Analyst workbenches
- Fourth Generation languages.

Exercise and Case Study

Delegates will carry out an exercise in order to establish the objectives, needs and requirements of an organisation. Using their findings they will then put forward a development strategy containing details of approaches, methodologies and methods deemed to be appropriate.

7 Support structures for system development

For IS development to be successful the necessary support systems must be in place with the organisation

- Third Generation language, Fourth Generation language and Fifth Generation language environments
- Data processing, information centres and end-user computing
- Centralisation and distributed processing.

8 The management of change

The successful introduction of new working methods requires innovative and imaginative management

- Management style
- Goal directed and process oriented change
- Motivation and leadership.

9 Organising the development team

Those organisations which have been most effective in introducing new technologies have started from a position of strength in their management methods and personnel employed

- Flexible team structures
- Staff selections
- Values and reward systems
- Training and education.

10 Discussion and forum session: the future scenario

The rate of change in the IS field is such that it is vital to keep up with identifiable trends in the area and plan accordingly

- Parallelism and concurrency. The transputer
- Knowledge engineering
- Intelligent development tools
- New work practices and organisational structures.

Presenter

Bob Wood
Lecturer and Consultant
Senior Programmer

3-day programme

1. The future environment for IS development

Organisations and the environments that they exist within are becoming more complex. This has information systems reacting to deal with such circumstances and themselves has spawned than those conceived previously.

- Strategic Information Systems and gaining competitive advantage
- Office Automation and Expert Systems
- Building in-house systems

2. Developing strategies for IS development

As well as attempting to foresee new kinds of application systems, organisations have to maintain their existing investment in systems and be prepared to capitalise on the move towards the future technologies.

- Developing flexible systems to match a changing environment
- Migrating from existing IT future systems
- Purchasing development and maintenance

3. Diagnosing the needs of the organisation

New systems must meet the actual needs of an organisation, of information systems and to match how exactly the requirement really works, which they include:

- Models of organisational structure, policies and culture

4. Eliciting management goals and requirements

Techniques used for eliciting and interrogating the goals with managements of executives and companies.

- Functional systems

5. Engineering information systems

Different techniques to assess problems a range of levels. Their techniques and for development a range of development overall environment.

- Workshops or on-site @party 150
- Worked exercises throughout manuals
- State building

6. Automating the system development process

Supporting technology in order to improve quality. The effectiveness and effectiveness of systems development is now a:

- CASE tools
- System workbenches
- ...

6. Exercise and Case Study

Delegates will carry out an exercise in order to establish the objectives, needs and requirements of an organisation. Using their findings they will then put forward a development strategy containing details of applications, methodologies and techniques deemed to be appropriate.

7. Support structures for system development

For IS development to be successful, the necessary support systems must be in place within the organisation.

- Third Generation language, Fourth Generation languages and Fifth Generation language environments
- Data processing, information centres and end-user computing
- Centralised and distributed processing

8. The management of change

The successful introduction of new working methods requires innovative and imaginative management.

- Management style
- Goal directed and process oriented change
- Motivation and leadership

9. Organising the development team

Those organisations which want their staff to be effective in introducing new technologies have started from a position of strength in their management methods and personnel:

- People team structures
- Staff selection
- Values and reward systems
- Training and education

10. Discussion and forum session: the future scenario

The role of change in the whole scenario that it is vital to keep up with continuous needs in the area and it can in accordance with:

- Research and concurrency. The pendular
- Knowledge engineering
- Intelligent development tools
- New work practices and organisational structures

VAX/VMS System Management

5 Days

General Description

This course is essential for both new and experienced managers of a computer system who require the knowledge necessary to manage, maintain and upgrade a VAX/VMS system to the standards of performance, reliability and security appropriate to the needs of their installation.

Among the topics discussed are: system generation, updating and performance, authorisation of users, error analysis and queue management.

Objectives

On successful completion of the course, the participant will be able to:

1. Install and update a VAX/VMS system.
2. Tailor a VAX/VMS system to a given environment.
3. Set up authorisation and accounting files and procedures.
4. Perform back-up and other security and maintenance functions.
5. Produce error logging, crash dumps, etc.
6. Manage operator functions.

Who should Attend

System managers, operation managers and senior operators who will have responsibility for a VAX/VMS system.

Before Attending

Participants should have either attended or studied one of the following courses:

- VAX/VMS Utilities and Commands lecture-based course, or the self-paced VAX/VMS Utilties and Commands course
- VAX/VMS Utilities and Commands (Accelerated) lecture-based course
- Operating VAX/VMS lecture-based course or the self-paced VAX/VMS V4.0 Operator course

Course Topics

1. System and Start-up Procedures
   a. Using the console
   b. Batch and print queues
   c. Install utility and site logical names
   d. Operator commands and messages
   e. The start-up file
   f. Install a system and use Autogen and Sysgen
   g. Updating the system
2. Control of Resources
   a. Authorising
   b. Accounting
   c. Setting up new volumes
   d. Back-up and restore
3. System Tailoring
   a. Monitoring performance
   b. System parameters
4. Error Analysis
   a. Error logging
   b. System dump analyzer
5. General Recommendations for System/Operations Management

Operating VAX/VMS

General Description

This course is essential for all operators of VAX/VMS systems. It is designed to give a good grounding in the Digital Command Language (DCL), with particular emphasis on those commands most frequently used by operators. This will enable participants to monitor and control the system processes, including batch and print queues and jobs.

Other topics discussed include: system start-up and shut-down, control of devices, communication with users, security and back-up issues. Some elementary knowledge of computers is assumed, but no experience of VMS systems or VAX hardware is necessary.

Objectives

On successful completion of the course, the participant will be able to:

1. Start-up (boot-strap) a VMS system on an appropriate configuration.
2. Control batch and print queues, and batch and print jobs.
3. Shut-down the system gracefully, both for routine purpose and in the event of an emergency.
4. Communicate with the users of the system, and the system processes for controlling device operation.
5. Understand procedures established by the system manager and be able to invoke them to perform system management functions
6. Monitor system performance

Who Should Attend

VAX/VMS operators and operations managers

Before Attending

Participants should have basic knowledge of computers to the level achieved by attending the Introduction to Computers and Operations course. In addition, participants will receive most value from the course if they have been involved in day-to-day operations for three to four months.

Course Topics

1. User Environment
   a. Directory structure and file specification
   b. Introduction to User Environment
   c. Logical names
   d. Getting started as a VMS user
   e. File manipulation commands
2. System Commands and Process Control
   a. System commands
   b. Simple command procedures
3. System Start-up
   a. Introduction to the console command language
   b. Booting - starting and restarting
   c. Use of start-up command files
4. Control of Resources and Privileged Commands
   a. Overview of authorisation and accounting
   b. Setting up new volumes
   c. Commands for controlling batch and print queues
   d. Operator terminals and communications
   e. Monitoring system operation
5. System and Disk Safeguarding Procedures
   a. System shut-down
   b. Back-up and restore
   c. Overview of error logging
   d. Preservation of crash dumps

VAXcluster Management

General Description
This intensive course presents the underlying concepts of a VAXcluster.
It will allow all attendees to make effective use of their shared resources,
monitor their system, isolate faults, and to configure, deconfigure and
reconfigure their system.

The course concentrates on the installation and setting up of a cluster.

Objectives
On successful completion of the course, the participant will be able to:
1. Describe the capabilities of various VAXcluster configurations.
2. Describe the purpose of VAXcluster hardware components.
3. Discuss the issues in choosing and planning a VAXcluster configuration.
4. Build a VAXcluster.

Who Should Attend
This course will be of value to all individuals responsible for the
management and operation of a VAXcluster.

Before Attending
All participants should have attended the VAX/VMS System Management
course. No specific prior to detailed knowledge of VAXclusters is
assumed.

Topics
1. VAX Show Cluster Utility
2. HSC50s
3. User Authorisation Files
4. Distributed File System
5. Cluster-wide Queues
6. DECnet/Ethernet
7. VAX Monitor Utility
8. VAXcluster Formation
9. VAX Error Log File Analyser
10. Distributed Lock Manager
11. Problem Isolation
12. Terminal Servers
13. Mass Storage Control Protocol

VAX/VMS Performance Tuning

Lecture-based
FY 1004E10
(Previous number S400)

5 Days

General Description
This advanced course is designed to teach the skills required to identify,
understand, and solve performance problems in applications running
under VAX/VMS.

Participants are encouraged to bring their own VMS case studies with
them to the course which is designed to discuss real performance issues
as well as providing a framework for solving them.

Objectives
On successful completion of the course, the participant will be able to:
1. Describe generic, fundamental performance concepts.
2. Explain the mechanisms used by VAX/VMS for memory
   management, CPU scheduling, and I/O subsystem management.
3. Design, develop and maintain well-performing systems.
4. Utilize effectively the standard VMS utilities and commands for
   monitoring system performance.
5. Describe how to identify, isolate and resolve performance
   problems.

Who Should Attend
Senior system programmers and system managers who have had at least
one year's experience in the management of a VAX/VMS system.

Before Attending
Participants should have attended the VAX/VMS System Management
course not less than six months prior to attending this course.
Participants should also have had programming experience of VAX/VMS
using a supported VAX language.

Course Topics
1. Performance Basics
2. VAX/VMS Memory Management
3. VAX/VMS I/O
4. VAX/VMS CPU
5. Tools and Investigation
6. System Performance Management

VAX/VMS Performance Tuning

Lecture-Based

LT 10041 TC1
(Previous number 34100)

1 Day

General Description

This advanced course is designed to teach the skills required to identify, understand, and solve performance problems in applications running under VAX/VMS.

Participants are encouraged to bring their own VMS case studies with them to the course which is designed to discuss real performance issues as well as providing a framework for solving them.

Objectives

On successful completion of the course, the participant will be able to
1. Describe generic, fundamental performance concepts.
2. Explain the mechanisms used by VAX/VMS for memory management, CPU scheduling, and I/O subsystem management
3. Design, develop and maintain well-performing systems.
4. Utilize effectively the standard VMS utilities and commands for monitoring system performance.
5. Describe how to identify, isolate and resolve performance problems.

Who Should Attend

Senior system programmers and system managers who have had at least one year's experience in the management of a VAX/VMS system.

Before Attending

Participants should have attended the VAX/VMS System Management course not less than six months prior to attending this course.
Participants should also have had programming experience of VAX/VMS using a supported VAX language.

Course Topics

1. Performance Basics
2. VAX/VMS Memory Management
3. VAX/VMS I/O
4. VAX/VMS CPU
5. Tools and Investigation
6. System Performance Management

VAX/VMS Internals Level 1:
Mechanisms and Overview

Lecture-based
FY 22791-LO
(Previous number E407)

5 Days

General Description

This course is designed to provide an extensive understanding of the various components, data structures, and algorithms used by the VMS operating system.

Study of the operating system begins with the major components and synchronization mechanisms, and continues with an analysis of the internals of VMS processes and system initialization.

Participants will spend time using VMS tools to analyze the system, reading VMS source code, and writing simple system-level programs.

Objectives

On successful completion of the course, the participant will be able to:

1. Describe the contents, use and interrelationship of selected VAX/VMS components and data structures.
2. Describe how VMS uses the system control block and interrupt priority levels to arbitrate the servicing of events on the system.
3. Describe the internal structure and handling of VMS processes.
4. Describe how SYSGEN parameters are used by VMS to control system resources.
5. Debug system failures using VMS-supplied debugging tools.
6. Use his/her knowledge of the VMS scheduling system to advise on the design and implementation of multi-programming applications.
7. Describe the initialisation of the VMS operating system from the internals view.

Who Should Attend

System programmers and senior application programmers who are experienced in programming under VMS, or anyone interested in the algorithms and data structures used by the operating system.

Additionally, this course is a prerequisite for the VAX/VMS Device Drivers Course.

Before Attending

Participants should have attended:

1. One of the following: Using VMS from VAX BASIC, Using VMS from VAX C, Using VMS from VAX COBOL, Using VMS from VAX FORTRAN, Using VMS from VAX Macro or Using VMS from VAX Pascal.
2. Either: Programming in VAX Macro or Programming in VAX Macro (Accelerated).

Course Topics

1. Operating System Implementation
2. Interrupts and Priority Levels
3. Overview of System Processes
4. Internal Process Data Structures
5. How SYSGEN Parameters Affect VMS
6. Synchronizing System Events
7. Process Synchronization
8. Exception and Condition Handling
9. Executing Protected Code
10. System Dump Analyzer
11. Using the System Map File
12. Process Scheduling
13. Process Creation and Deletion
14. System Initialization/Shutdown/Restart
15. Debugging a System that will not boot