

VfXfef€ DSN ,É,Á,č,Äff[]f^ f[]fX,ì'Ç%ÁA[]íœ[]A[]- ,ðs,ç,Ü,·B,±,ê,ç,ìff[]f^ f[]fX,ðAf+[]fU[][,Á,Í,È,fRf"fsf...[]f^,É'í,μ,Äf[]fj<,É,μ,Ü,·BfVfXfef€[]A,Ü,½,ÍCE CEÀ,ðŽ,Äf+[]fU[][,íAf VfXfef€ DSN ,ìff[]f^ f[]fX,ðŽg—p,Á,«,Ü,·B

f{fVfVfj}	à-¾
[fVfXfef€ ff[]f^ f[]fX] f{fbfNfX	,cSN ,ì-¼' O,Æ,»,ê,É'í%ž,·,éfhf %ofCfo,ðŠÜ,p[]AfVfXfef€ DSN ,ì'ê— ,Á,·BfVfXfef€ DSN ,ðf_fuf<fNfŠfbfN,·,é,Æ[]Afhf%ofCfoCEÀ— L,ìff[]f^ f[]fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,ª·\Ž!,ª,ê,Ü,·B
['Ç%Á	[]V,μ,fVfXfef€ ff[]f^ f[]fX,ð'Ç %Á,μ,Ü,·B,± ,ìf{f^f",ðfNfŠfbfN,·,é,Æ[]Af[]f^ f[]fX,ì[]V<K[]í[]-] f_fCfAf[]fO f{fbfNfX,ª·\ Ž!,ª,ê,Ü,·B,±,ìf_fCfAf[]fO f{fbfNfX,É,ìfhf %ofCfo,ª^ê—·\Ž!,ª,ê,Ü,·BfVfXfef€ ff[]f^ f[]fX,ð'Ç%Á,·,éfhf%ofCfo,ð'í'ð,μ,Ü,·B[Š@ —] ,ðfNfŠfbfN,·,é,Æ[]A,»,ìfhf%ofCfoCEÀ— L,ìff[]f^ f[]fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,ª·\Ž!,ª,ê,Ü,·B
[[]í[]œ]	Šù'¶,ìff[]f^ f[]fX,ð[]í[]œ,μ,Ü,·B[[]í[]œ] ,ðfNfŠfbfN,·,é'O,É[]A[]í[]œ,·,éVfXfef€ ff[]f^ f[]fX,ðfŠfXfg f{fbfNfX,Á'í'ð,μ,Ä,·,·K— v,ª, ,è,Ü,·B
[[]-]	fhf%ofCfoCEÀ—L,ìff[]f^ f[]fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,ª·\Ž!,μ,Ü,·B,± ,ìf_fCfAf[]fO f{fbfNfX,Á,í[]AŠù'¶,ìfVfXfef€ ff[]f^ f[]fX,ì[]- ,ð'í[]X,·,é,± ,Æª,Á,«,Ü,·B[[]-] ,ðfNfŠfbfN,·,é'O,É[]A'í[]Ü,Æ,È,éVfXfef€ ff[]f^ f[]fX,ðfŠfXfg f{fbfNfX,Á'í'ð,μ,Ä,·,·K— v,ª, ,è,Ü,·B
[OK]	[ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^] f_fCfAf[]fO f{fbfNfX,ð·Á,¶,Ü,·B[fVfXfef€ ff[]f^ f[]fX] f{fbfNfX,É'í,·,é'í[]X,ð"K— p,·,é,½,B,É [OK] ,ðfNfŠfbfN,·,é·K— v,í, ,è,Ü,¹,ñ[]BfŠfXfg f{fbfNfX,É'í,·,é'í[]X,í[]Af[]f^ f[]fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,Á [OK] ,ðfNfŠfbfN,μ,½Žž" _ ,Á"K—p,ª,ê,Ü,·B
[fLfff"fZf<]	[ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^] f_fCfAf[]fO f{fbfNfX,ð·Á,¶,Ü,·B[fLfff"fZf<] ,ðfNfŠfbfN,μ,Á,à [fVfXfef€ ff[]f^ f[]fX] f{fbfNfX,Ö,ì'í[]X,Ížæ,è[]A,ª,ê,Ü,¹,ñ[]B
[fwf<fv]	fwf<fv%æ-É,ð·\Ž!,μ,Ü,·B

[ftf@fcf< DSN] f^fu

ftfHf<f_Ö) Žl,³,é,éftfHf<f_δACE»Ÿ'1'ð,μ,Ä,ç,éftfHf<f_ì
 (fAfCfRf“) 1 ,Ää,ìftfHf<f_É•ïX,μ,Ü,·B
 [OK] [ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^]
 f_fCfAf[]fO f{fbfNfX,ð•Ä,¶,Ü,·Bftf@fCf<
 ff[]f^ f[]fX f{fbfNfX,É'í,·,é•ïX,ð“K—
 p,·,é,½,B,É [OK] ,ðfNfŠfbfN,·,é•K—
 v,í, ,è,Ü,¹,ñBfŠfXfg
 f{fbfNfX,É'í,·,é•ïX,íAfff[]f^ f
 []fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,Ä
 [OK] ,ðfNfŠfbfN,μ,½Žž“_„Ä“K—p,³,è,Ü,·B
 [fLfff“fZf<] [ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^]
 f_fCfAf[]fO f{fbfNfX,ð•Ä,¶,Ü,·B[fLfff“fZf<]
 ,ðfNfŠfbfN,μ,Ä,àAftf@fCf< ff[]f^ f[]fX
 f{fbfNfX,Ö,ì•ïX,íŽæ,èÄ,³,è,Ü,¹,ñB
 [fwf<fv] fwf<fv%œ-É,ð•Žì,μ,Ü,·B

[fhf%ofCfo] f^fu

fCf“fXfg[]f<,³,è,½ ODBC fhf%ofCfo,ÉŠÖ,·,éî•ñ,ð•Žì,μ,Ü,·B[±,ìfRf“fsf...[]f^,ÉfCf“fXfg[]f<,³,è,Ä,ç,é
 ODBC fhf%ofCfo] f{fbfNfX,É,íAfrf“fsf...[]f^,ÉfCf“fXfg[]f<[]í,Ý,ìfhf%ofCfo,ª•Žì,³,è,Ü,·B

fLfvfVfjf“ **à-¾**

[±,ìfRf“fsf... fRf“fsf...[]f^,ÉfCf“fXfg[]f<,³,è,Ä,ç,éSe
 []f^,ÉfCf“fXfg ODBC fhf%ofCfo,É,Ä,ç,ÄA-
 []f<,³,è,Ä,ç,é ¼'O[]Afo[]fWfjf“[]A%ïžĐ-¼[]Aftf@fCf<-
 ODBC fhf ¼[]Aftf@fCf<[]X[]V“úŽž,ð•Žì,μ,Ü,·B
 %ofCfo]
 f{fbfNfX
 [OK] [ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^]
 f_fCfAf[]fO f{fbfNfX,ð•Ä,¶,Ü,·B
 [fLfff“fZf<] [ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE[]f^]
 f_fCfAf[]fO f{fbfNfX,ð•Ä,¶,Ü,·B
 [fwf<fv] fwf<fv%œ-É,ð•Žì,μ,Ü,·B

fhf%ofCfo,ì'Ç%Ä,Æ[]íœ,ÉŽg—p,·,é [Ç%Ä] f{f^f“,Æ [ííœ] f{f^f“,íA,±,ìf_fCfAf[]fO
 f{fbfNfX,É,í, ,è,Ü,¹,ñBODBC fhf%ofCfo,ì'Ç%Ä,â[]íœ,íAfhf%ofCfo,ìfZfbfgfAfbfv fv[]fOf%of€,ðŽg—
 p,μ,Ä[]s,ª•K—v,ª, ,è,Ü,·B

[fgfCE[fX] f^fu

ODBC fhf%ofCfo f}f[]fWff,^a ODBC ŠÖ[] ,ìCEÄ,Ñ[]o,μ,ðfgfCE[fX ('Ç[]Ö) ,.é•û-@,ðžw'è,μ,Ü,·[]BffjXf^f€ fgfCE[fX DLL ,ðžg—p,μ,Ä[]ACEp'±“l,ÈfgfCE[fX[]A^è“x,ì,Ý,ìfgfCE[fX[]A“@“ìfgfCE[fX[]A,Ü,½,ìffjXf^f€ fgfCE[fX,ðžw'è,Ä,«,Ü,·[]B

fjfvfVfjf“

□à-¾

[fgfCE[fX,ð[]i,·,® ŠjŽn,·,é]

“®“ìfgfCE[fX,ð—
LCEø,É,μ,Ü,·[]B“®“ìfgfCE[fX,í[]A[ODBC
ff[]f^ f[]fX fAfhf~fjXfgfCE[f^]
f_jCfAf[]fO f{fbfNfX,^a•Ž!,³,è,Ä,ç
,é[]Ä't,ÉŽÄ[]s,³,è,Ü,·[]B“®“ìfgfCE[fX,í[]A
[]Ú'±,ì—L-³,É,©,©,í,ç,·—
LCEø,É,Ä,«,Ü,·[]B[fgfCE[fX,ð[]i,·,®ŠjŽn,·,
é] ,ðfNfŠfbfN,·,é,Æ[]Af{f^f“,^a
[fgfCE[fX,ì'âž~]
f{f^f“ ,É•ì,í,è,Ü,·[]B[fgfCE[fX,ì'âž~]
,ðfNfŠfbfN,·,é,Ü,Ä“®“ìfgfCE[fX,í—
LCEø,Ä,·[]B

[Visual Studio Analyzer ,ìŠjŽn]

Visual Studio Analyzer ,ð—
LCEø,É,μ,Ü,·[]B[Visual Studio Analyzer
,ìŠjŽn] ,ðfNfŠfbfN,·,é,Æ[]Af{f^f“,^a
[Visual Studio Analyzer ,ì'âž~]
f{f^f“ ,É•ì,í,è,Ü,·[]B,±
,ìf{f^f“ ,ðfNfŠfbfN,·,é,Æ[]AVisual Studio
Analyzer ,í-³CEø,É,É,è,Ü,·[]B[Visual
Studio Analyzer ,ì'âž~]
,ðfNfŠfbfN,·,é,Ü,Ä Visual Studio
Analyzer ,í—LCEø,Ä,·[]B

[f[]fO ftf@fCf<,ìpfX]

fgfCE[fX[]î•ñ,ìŠi“[ftf@fCf<,ìpfX,Æftf@fC
f<-¾,ð•\
Ž!,μ,Ü,·[]BfVfXfef€[]î•ñ,©,çŠù'è,ìpfX,Æf
tf@fCf<-¾ (SQL.LOG) ,^aŠ,,è—
,Ä,ç,è,Ü,·,[]A•É,ìpfX,Æftf@fCf<-¾,ð“ü
—í,·,é,©[]A[ŽQ[]Æ]
,ðfNfŠfbfN,μ,ÄftfHf<f_,Æftf@fCf<,ð'l'ð,μ[]
A•É,ìftf@fCf<,ðžw'è,Ä,«,Ü,·[]B

[ŽQ[]Æ]

fRf“fsf...[]f^,ìftfHf<f_,ðžQ[]Æ,μ,Ä[]Af[]fO
ftf@fCf<,ìpfX,Æftf@fCf<-
¾,ð'l'ð,·,é,Æ,«,Éžg—p,μ,Ü,·[]B

[ffjXf^f€ fgfCE[fX DLL]

fgfCE[fX,ìŽÄ[]s,Éžg—p,·,éftf@fCf<,ð
ODBCTRAC.DLL ftf@fCf<^ÈŠO,ìfgfCE[fX
DLL ,©,ç'l'ð,·,é,Æ,«,Éžg—
p,μ,Ü,·[]BMicrosoft Data Access SDK
,É•t'®,·,é ODBCTRAC.DLL
ftf@fCf<,ð[]A“C^Ó,ìffjXf^f€ DLL
,É'u,«Š·,ì,é,±,Æ,^aÄ,«,Ü,·[]BffjXf^f€ DLL
,ìpfX,·,æ,Ñftf@fCf<-¾,ð“ü—
í,·,é,©[]A[DLL ,ì'l'ð]
,ðfNfŠfbfN,μ,ÄftfHf<f_,ð'l'ð,μ,Ü,·[]B

[DLL ,ì'ò] fffBfCEfNfgfŠ\`č,đŽQ□Æ,μ,ÄffjXf^f€
fgfCE□[fX DLL ,đ'ì'ò,·,é,Æ,«,ÉŽg—
p,μ,Ü,·□BDLL
,đ'ì'ò,·,é,Æ□A,»,ìfpfX,Æftf@fCf<-¼,ª
[fjXf^f€ fgfCE□[fX DLL] f{fbfNfX,É•\`
Ž!,³,è,Ü,·□B

[OK] fgfCE□[fX,ì□Ý'è,ì•ï□X,đ“K—p,μ,Ä,©,ç
[ODBC ff□[f^ f□[fX fAfhf~fjXfgfCE□[f^]
f_fCfAf□fO f{fbfNfX,đ•Â,¶,Ü,·□B

[fLfff“fZf<] fgfCE□[fX,ì□Ý'è,ì•ï□X,đ“K—p,¹,,É [ODBC
ff□[f^ f□[fX fAfhf~fjXfgfCE□[f^]
f_fCfAf□fO f{fbfNfX,đ•Â,¶,Ü,·□B

[“K—p] [ODBC ff□[f^ f□[fX fAfhf~fjXfgfCE□[f^]
f_fCfAf□fO
f{fbfNfX,đ•Â,¶,,É□AfgfCE□[fX,Ö,ì•ï□X“à
—e,đ“K—p,μ,Ü,·□B•ï□X,ª^è□□s,í,è,Ä,č
,È,~,è,î□A,±,ìf{f^f“,í'W□F•Ž!,³,è,Ü,·□B

[fwf<fv] fwf<fv%œ-Ê,đ•Ž!,μ,Ü,·□B

ff[]fU[] ff[]f^ f[]fX] f{fbfNfX

,±,İfŠfXfg,ÍADSÑ ,ì-¼'O,Æ,»,ê,É'í%ž,·,éfhf%oCfo,È,ÇAft[]fU[][DSN ,đ,·,×,Ä•\
Ž!,μ,Ü,·Bft[]fU[][ff[]f^ f[]fX,É'î,μ,Äfhf%oCfoEÅ—L,İff[]f^ f[]fX,İfZfbfjgfAfbfv f_fCfAfofO
f{fbfNfX,đ•Ž!,·,é,É,ÍAft[]fU[][DSN ,đ_fuf:fNfŠfbfN,μ,Ü,·B

【□□→】

fhf%oCfoĀ—L,ìff□[f^ f□[fX,ìfZfbfgfAfbfv f_fCfAf□fO f{fbfNfX,đ•\Ž!,·,é,É,í□A[□□→]
,đNfŠfbfN,μ,Û,·□B,±,ìf_fCfAf□fO f{fbfNfX,Ā,í□AŠù'¶,ìft□[fU□[ff□[f^ f□[fX,ì□□→,đ•í□X,·,é,±
,Æ,ª,Ā,«,Û,·□B'î□Û,Æ,È,éft□[fU□[ff□[f^ f□[fX,đfŠfXfg f{fbfNfX,Ā'ìđ,μ,Ā,¨,•K—v,ª, ,è,Û,·□B

['Ç%oÁ]

□V,μ,ff□[f^ f□[fX,δ'Ç%oÁ,·,é,É,í□A['Ç%oÁ] ,đfNfŠfbfN,μ,Ü,·□B[ff□[f^ f□[fX,ì□V<K□ì□-] f_fCfAf□fO
f{fbfNfX,ª•\Ž!,³,ê,Ü,·□B,±,ìf_fCfAf□fO f{fbfNfX,É,ífhf%oCfo,ª^ê—•\Ž!,³,ê,Ü,·□Bft□[fU□[ff□[f^ f□[fX
—p,É'Ç%oÁ,·,éfhf%oCfo,đ'!đ,μ,Ü,·□B[Š@—¹] ,đfNfŠfbfN,·,é,Æ□A,»,ìfhf%oCfoCEÅ—L,ìff□[f^ f\
□[fX,ìfZfbfgfAfbfv f_fCfAf□fO f{fbfNfX,ª•\Ž!,³,ê,Ü,·□B

【íœ】

Šù'¶,ìff[f^ f[fX,đfŠfXfg f{fbfNfX,©,çíœ,·,é,É,íA[íœ] ,đfNfŠfbfN,μ,Ü,·Bíœ,·,éff[f^ f
[fX,đfŠfXfg f{fbfNfX,Å'í'đ,μ,Ä,¨,•K—v,ª, ,è,Ü,·B

[OK]

[ODBC ff[f^ f[fX fAfhf~fjfXfgf[f^] f_fCfAf[fO f{fbfNfX,ð•Å,¶,é,É,íA[OK]
,ðNfŠfbfN,μ,Û,·Bff[f^ f[fX fŠfXfg f{fbfNfX,É'í,·,é•ïX,ð“K—p,·,é,½,ß,É [OK] ,ðNfŠfbfN,·,é•K—
v,í, ,è,Û,¹,ñBfŠfXfg f{fbfNfX,É'í,·,é•ïX,íAff[f^ f[fX,lfZfbfgfAfbfv f_fCfAf[fO f{fbfNfX,Å [OK]
,ðNfŠfbfN,μ,½Žž“_„Å“K—p,³,è,Û,·B

[fLfff“fZf<]

[ODBC ff□[f^ f□[fX fAfhf~fjfXfgf□□[f^] f_fCfAf□fO f{fbfNfX,ð•À,¶,é,É,í□A[fLfff“fZf<]
,ðfNfŠfbfN,μ,Û,·□B[fLfff“fZf<] ,ðfNfŠfbfN,μ,Ä,à□Afff□[f^ f□[fX fŠfXfg
f{fbfNfX,Ö,ì•ï□X,íŽæ,è□Á,³,é,Û,¹,ñ□B

[fwf<fv]

,±,lf^fu,ÉŠÖ,·,éfwf<fv,đ•\Ž|,·,é,É,Í□A[fwf<fv] ,đfNfŠfbfN,μ,Û,·□B

[fVfXfef€ ff[f^ f[fX] f{fbfNfX

,±,lfŠfXfg f{fbfNfX,íADSÑ ,ì-¼'O,Æ,»è,É'í%ž,·,éfhf%ofCfo,đŠÜ,pAfVfXfef€ DSN ,đ,·,×,Ä•\
Ž!,μ,Ü,·BfVfXfef€ ff[f^ f[fX ,É'í,μ,Äfhf%ofCfoEÅ—L,íf[f^ f[fX,lfZfbfgfAfbfv f_fCfAf□fo
f{fbfNfX,đ•Ž!,·,é,É,íAfVfXfef€ DSN ,đf_fuf·fNfŠfbfN,μ,Ü,·□B

【□□→】

fhf%oCfoEĀ—L,ìff□[f^ f□[fX,ìfZfbfgfAfbfv f_fCfAf□fO f{fbfNfX,đ•\Ž!;·,é,É,í□A[□□→]
,đfNfŠfbfN,μ,Û,·□B,±,ìf_fCfAf□fO f{fbfNfX,Ā,í□AŠù'¶,ìfVfXfef€ ff□[f^ f□[fX,ì□□→,đ•í□X,·,é,±
,Æ,ª,Ā,«,Û,·□B'î□Û,Æ,È,éfVfXfef€ ff□[f^ f□[fX,đfŠfXfg f{fbfNfX,Ā'í'đ,μ,Ā,¨,•K—v,ª, ,è,Û,·□B

['Ç%oÁ]

V,µ,νfXfef€ ff[f^ f[fX,đ'Ç%oÁ,·,é,É,Í[A['Ç%oÁ] ,đfNfŠfbfN,µ,Ü,·B[ff[f^ f[fX,ìV<K[]-]
f_fCfAf[]fO f{fbfNfX,ª•\Ž!,³,ê,Ü,·B,±,ìf_fCfAf[]fO f{fbfNfX,É,ífhf%oCfo,ª^ê—•\Ž!,³,ê,Ü,·BfVfXfef€
ff[f^ f[fX,đ'Ç%oÁ,·,éfhf%oCfo,đ'!đ,µ,Ü,·B[Š@—¹] ,đfNfŠfbfN,·,é,Æ[A,»ìfhf%oCfoCEÅ—L,ìff[f^ f[
[fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,ª•\Ž!,³,ê,Ü,·B

【íœ】

Šù'¶,jVfXfef€ ff[f^ f[fX,đŠfXfg f{fbfNfX,©,çíœ,.,é,É,íA[íœ]

,đNfŠfbfN,μ,Û,·Bíœ,.,éVfXfef€ ff[f^ f[fX,đŠfXfg f{fbfNfX,Å'í'đ,μ,Ä,¨,•K—v,^a, ,è,Û,·B

ftf@fCf< ff[]f^ f[]fX f{fbfNfX

,±,lfŠfXfg f{fbfNfX,íA[ff[]f^ f[]fX,ìê[]Š] f{fbfNfX,Å•\Ž!,³,ê,éftfHf<f_,ÉŠÜ,Ü,ê,éftf@fCf< DSN
,ÆfTfuftfHf<f_đ,·,×,Ä•\Ž!,μ,Ü,·[]Bftf@fCf< DSN ,đf_fuf<fNfŠfbfN,·,é,Æ[]Afhf%oofCfoĀ—L,ìff[]f^ f[]
[]fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,²•\Ž!,³,é,Ü,·[]B

【\□¬】

fhf%oCfoĒĀ—L,ĭff□[f^ f□[fX,ĭfZfbfgfAfbfv f_fCfAf□fO f{fbfNfX,đ•\Ž!,·,é,É,í□A[□\□¬]
,đfNfŠfbfN,μ,Û,·□B,±,ĭf_fCfAf□fO f{fbfNfX,Ā,í□AŠù'¶,ĭftf@fCf< ff□[f^ f□[fX,í□\□¬,đ•í□X,·,é,±
,Æ,ª,Ā,«,Û,·□B'î□Û,Æ,È,éftf@fCf< ff□[f^ f□[fX,đfŠfXfg f{fbfNfX,Ā'í'đ,μ,Ā,¨,•K—v,ª, ,è,Û,·□B

['Ç%Á]

V,µ,ftf@fCf< ff[f^ f[fX,ð'Ç%Á,µ,Ü,·B[ff[f^ f[fX,ìV<Kòì-] f_fCfAfO f{fbfNfX,ª·\
Ž,³,è,Ü,·B,±,ìf_fCfAfO f{fbfNfX,É,ìfhf%ofCfo,ª^è—·Ž,³,è,Ü,·B,±,ìf_fCfAfO f{fbfNfX,É,ìfhf
%ofCfo,ª^è—·Ž,³,è,Ü,·B[V,µ,ftf@fCf< ff[f^ f[fX—p,É'Ç%Á,·,éfhf%ofCfo,ð'ì'ð,µ,Ä [Ú×Ý'è]
,ðNfŠfbfN,·,é,ÆAftf@fCf< DSN ,É'ì,·,éL[f[fh,ðŽw'è,Å,«,Ü,·B

【íœ】

Šù'¶,}ff[f^ f[fX,ðíœ,μ,Ü,·B[íœ] ,ðfNfŠfbfN,·,é'O,ÉAíœ,·,éftf@fCf< ff[f^ f[fX,ðfŠfXfg
f{fbfNfX,Å'l'ð,μ,Ä,¨,•K—v,ª, ,è,Ü,·B

[ff[f^ f[fX,ìêš]

fjfCef“fg ftfHf<f_đ•\Žì,μ,Ü,·B,»ì%º,ìfEfBf“fhfE,É,íAjjfCef“fg ftfHf<f_ìfTfuftfHf<f_Æftf@fCf< DSN ,ª•\ Žì,³,è,Ü,·B%ŠúÝ’è,Å,íAfvfXfef€î•ñ,ÉŽù,ß,ç,è,½Šù’èftfHf<f_ª•\Žì,³,è,Ü,·B

[1 ,Âã,ìftHf<f_Ö] (fAfCfRf“)

[ff[f^ f[fX,ìêŠ] ,É•Ž|,³,ê,éftHf<f_ðACE»Ý‘I’ð,μ,Ä,ç,éftHf<f_ì 1 ,Âã,ìftHf<f_É•ïX,·,é,É,íA[1 ,Âã,ìftHf<f_Ö] (fAfCfRf“) ,ðfNfŠfbfN,μ,Ü,·B

[ftfHf<f_]

ftfHf<f_,"à—e,ð•\Ž|,·,é,É,í□A[ftfHf<f_] f{fbfNfX,ÉftfHf<f_,ìfpfX,ð“ü—í,μ,Ü,·□B□â'ìfpfX□AjjfCEf“fg
ftfHf<f_ ,©,ç,ì'Š'ìfpfX,ì,ç,.,ê,©,ð“ü—í,Å,«,Ü,·□B

[ODBC fhf%ofCfo]/[Ú'±fv[f<,lf^fCf€fAfEfg]

fRf“fsf...[f^,ÉfCf“fXfg[f<,³,è,Ä,ç,éŠe ODBC fhf%ofCfo,íAÚ'±fv[f<,lf^fCf€fAfEfg flfvfVf#f“,Æ<α,É^è
—•\Ž!,³,è,Ü,·Bf^fCf€fAfEfg flfvfVf#f“,ðŸ'è,·,é,É,íA“C^Ó,ì ODBC fhf%ofCfo-
¼,ðf_fuf<fNfŠfbfN,μ,Ü,·B

[,±,ìfRf“fsf...[f^,ÉfCf“fXfg[f<,³,ê,Ä,ç,é ODBC fhf%ofCfo] f{fbfNfX

,±,ìfŠfXfg f{fbfNfX,íAfrf“fsf...[f^,ÉfCf“fXfg[f<,³,ê,Ä,ç,é ODBC fhf%ofCfo,ì-¼‘O□Afo□[fWf#“□A
%oĩŽĐ-¼□Aftf@fCf<-¼□A□X□V“ úŽž,đ•\Ž|,μ,Ü,·□B

[fgfCE[fX,đi,.,@ŠJŽn,.,é]

[ODBC ff[f^ f[fX fAfhf~fjXfgfCE[f^] f_fCfAfO f{fbfNfX,ì)\\
Ž!'+,ÉfgfCE[fX,đŽÀs,.,é,É,í[A[fgfCE[fX,đi,.,@ŠJŽn,.,é] ,đfNfŠfbfN,μ,Ü,·B" @ "lfgfCE[fX,íAÚ'±,ì—
L⁻³,É,©,©,í,ç,·—LCEø,É,Å,«,Ü,·B[fgfCE[fX,đi,.,@ŠJŽn,.,é] ,đfNfŠfbfN,.,é,ÆAf{f^f",^a
[fgfCE[fX,ì'âŽ~] f{f^f",É•ī,í,è,Ü,·B[fgfCE[fX,ì'âŽ~] f{f^f",đfNfŠfbfN,.,é,©A[ODBC ff[f^ f[fX
fAfhf~fjXfgfCE[f^] f_fCfAfO f{fbfNfX,đ•Å,¶,é,ÆA" @ "lfgfCE[fX,í⁻³CEø,É,È,è,Ü,·B

[Visual Studio Analyzer ,İŠŽn]

Visual Analyzer fCxf“fg” □s,ðĈep’±“l,ÉfgfĈ□[fX,·,é,É,Í□A[Visual Studio Analyzer ,İŠŽn]
,ðfNfŠfbfN,μ,Û,·□B[Visual Studio Analyzer ,İŠŽn] ,ðfNfŠfbfN,·,é,Æ□Af{f^f“,^q [Visual Studio Analyzer
,l’âŽ~] f{f^f“,É•İ,í,è,Û,·□B[Visual Studio Analyzer ,l’âŽ~] ,ðfNfŠfbfN,·,é,Æ Visual Studio Analyzer ,l’
³Ĉø,É,È,è,Û,·□B

[f]fo ftf@fCf<,lfpfX]

f[]fo ftf@fCf<,lfpfX,Æftf@fCf<-¼,ð•ï[]X,·,é,É,í[]A[]f[]fo ftf@fCf<,lfpfX] f{fbfNfX,ÉfefLfXfg,ð“ü—
Í,μ,Ü,·[]B,±,lf{fbfNfX,í[]Afgf[]fX[]î•ñ,ª•Û'¶,³,ê,Ä,ç,éftf@fCf<,lfpfX,Æftf@fCf<-¼,ð•\
Ž!,μ,Ü,·[]BfVfXfef€[]î•ñ,©,çŠù'è,lfpfX,Æftf@fCf<-¼ (SQL.LOG) ,ªŠ,,,è“-
,Ä,ç,ê,Ü,·,ª[]A•Ê,lfpfX,Æftf@fCf<-¼,ð“ü—Í,·,é,©[]A[ŽQ[]Æ]
,ðfNfŠfbfN,μ,ÄftfHf<f_,Æftf@fCf<,ð'!ð,μ[]A•Ê,lfpf@fCf<,ðŽw'è,Å,«,Ü,·[]B

[ŽQÆ]

fRf“fsf... [f^, ðŽQÆ, μ, ÄAfO ft@fCf<, ð' ð, ·, é, Æ, «, ÉŽg—p, μ, Ü, ·B

[fj]Xf^f€ fgf€[fX DLL]

fgf€[fX, ìŽÀs, ÉŽg—p, ., éftf@fCf<, ð ODBCTRAC.DLL ftf@fCf<^ÈŠO, ìfgf€[fX DLL
, ©, ç'ì'ð, ., é, É, íA[fj]Xf^f€ fgf€[fX DLL] f{fbfNfX, É, »), ìpfX, ", æ, Ñftf@fCf<-¼, ð"ü—í, μ, Û, .BMicrosoft
Data Access SDK ,É•t' @, ., é ODBCTRAC.DLL ftf@fCf<, ðA"C^Ó, ìfj]Xf^f€ DLL ,É'u, «Š, |, é, ±
, Æ, ð, Å, «, Û, .Bfj]Xf^f€ DLL ,ìpfX, ", æ, Ñftf@fCf<-¼, ð"ü—í, ., é, ©A[DLL ,ì'ð]
, ðfNfŠfbfN, μ, ÅftfHf<f_ð'ì'ð, μ, Û, .B

[DLL ,ì'ð]

ffBfÇfNfgfŠ\`ç,ðŽQÆ,μ,ÄjXf^f€ fgfÇ[fX DLL ,ð'ì'ð,·,é,É,íA[DLL ,ì'ð] ,ðfNfŠfbfN,μ,Ü,·BDLL
,ð'ì'ð,·,é,ÆA,» ,ìpfX,Æftf@fCf<-¼,^a [f]fXf^f€ fgfÇ[fX DLL] f{fbfNfX,É•\Ž,³,ê,Ü,·B

[OK]

fgf☒[fX,ì☒Ý'è•ï☒X,đŽó,~“ü,ê,Ä☒A[ODBC ff☒[f^ f☒[fX fAfhf~fjXfgf☒[f^] f_fCfAf☒fO
f{fbfNfX,đ•Â,¶,é,É,í☒A[OK] ,đfNfŠfbfN,μ,Ü,·☒B

[fLfff“fZf<]

fgf☒[fX,ì□Ý'è•ï□X,đŽó,~“ü,ê,,É□A[ODBC ff□[f^ f□[fX fAfhf~fjXfgf☒[f^] f_fCfAf□fO
f{fbfNfX,ð•Â,¶,é,É,í□A[fLfff“fZf<] ,đfNfŠfbfN,μ,Ü,·□B

["K—p]

[ODBC f^ f\ fX fAfhf~fjfXfgf^] f_fCfAfO
f{fbfNfX,ð•Â,¶,.,ÉAfgf^fX,ìY'è•ïX,ðŽó,~“ü,ê,éê‡,íA["K—p]
,đNfŠfbfN,μ,Ü,·B•ïX,â^ê∅s,í,ê,Ä,ç,È,¯,ê,îA,±,ìf{f^f“,í'W□F•Ž!,³,ê,Ü,·B

[ftf@fCf< ff[]f^ f[]fX] f^fu

ftf@fCf< DSN ,ðž,Äff[]f^ f[]fX,Éü'±,µ,Ü,·□B“~ ,¶fhf%ofCfo,ðfCf“fXfg[]f<,µ,½,·,×,Ä,ìft[]fU[][,ª<κ—
 L,Å,«,éftf@fCf< f[]fX,ìff[]f^ f[]fX,Å, ,è□Aft[]fU[][,É,æ,éff[]f^f[]fX,Ö,ìfAfNfZfX,ª%Å“\,Å,·□B,±
 ,é,ç,ìff[]f^ f[]fX,ð□Aft[]fU[][,É'í,µ,Äè—p,É,·,é•K—v,à□Afrf“fsf...[]f^,É'í,µ,Äff[]ffj<,É,·,é•K—
 v,à, ,è,Ü,¹,ñ□B

flfvfVfjf“	□à-¾
ftf@fCf< ff[]f^ f[]fX f{fbfNfX	[ff[]f^ f[]fX,ìè□Š] f{fbfNfX,É•\ Ž!,³,è,éftfHf<f_,ÉŠÜ,Ü,è,éftf@fCf< DSN ,ÆfTfufHf<f_,ð,·,×,Ä•Ž!,µ,Ü,·□BDSN ,ðf_fuf<fNfŠfbfN,·,é,Æff[]f^ f[]fX,Éü'± ,µ,Ü,·□B
[ff[]f^ f[] fX,ìè□Š]	ffjCEf“fg ftfHf<f_,ð•Ž!,µ,Ü,·□B,»,)ì %oo°,ìfEfBf“fhfE,É,í□AfffCEf“fg ftfHf<f_,ìTfufHf<f_,Æftf@fCf< DSN ,ª•\ Ž!,³,è,Ü,·□BfefLfXfg f{fbfNfX,ì%oE'ª,É, ,é %oo°CEü,«— î'ó,ðfNfŠfbfN,·,é,Æ□A,»,)ffffBfCEfNfgfŠ□\ç'S' ì,ª•Ž!,³,è,Ü,·□B
[1 ,Ä□ã,ì ftfHf<f_,Ö] (fAfCfRf“)	[ff[]f^ f[]fX,ìè□Š] f{fbfNfX,É•\ Ž!,³,è,éftfHf<f_,ð□ACE»□Y'í'ð,µ,Ä,ç,éftfHf<f_,ì 1 ,Ä□ã,ìftfHf<f_,É•ì□X,µ,Ü,·□B
[DSN -¾]	ftf@fCf< ff[]f^ f[]fX f{fbfNfX,Å'í'ð,³,è,Ä,ç ,éftf@fCf< DSN -¾,ð•\ Ž!,µ,Ü,·□B,Ü,½,í□A□V,µ,çftf@fCf< DSN - ¾,ð“ü—í,Å,«,Ü,·□B
[□V<K□ì□~]	□V,µ,çftf@fCf< ff[]f^ f[]fX,ð'ç %oÅ,µ,Ü,·□B,± ,ìf{f^f“,ðfNfŠfbfN,·,é,Æ□A[ff[]f^ f[] fX,ì□V<K□ì□~] f_fCfAf□fO f{fbfNfX,ª•\ Ž!,³,è,Ü,·□B,±,ìf_fCfAf□fO f{fbfNfX,É,ìfhf %ofCfo,ª'è—•Ž!,³,è,Ü,·□Bftf@fCf< DSN — p,É'ç%oÅ,·,éfhf %ofCfo,ð'í'ð,µ,Ü,·□B[□ú□×□Y'è] ,ðfNfŠfbfN,·,é,Æ□Aftf@fCf< DSN ,É'í,·,éfl□f□□fh,ðžw'è,Å,«,Ü,·□B
[OK]	[ODBC ff[]f^ f[]fX fAfhf~fjXfgfCE□f^] f_fCfAf□fO f{fbfNfX,ð•Å,¶□Af{fbfNfX,ÅfnfCf %ofCfg•Ž!,³,è,Ä,ç,éftf@fCf< ff[]f^ f[] fX□A,Ü,½,í [DSN -¾] f{fbfNfX,É“ü— í,µ,½ftf@fCf< ff[]f^ f[]fX,Éü'±,µ,Ü,·□B ftf@fCf< ff[]f^ f[]fX f{fbfNfX,É'í,·,é•ì□X,ð“K—p,·,é,½,β,É [OK] ,ðfNfŠfbfN,·,é•K—v,í, ,è,Ü,¹,ñ□BfŠfXfg f{fbfNfX,É'í,·,é•ì□X,í□Afff[]f^ f[] fX,ìfZfbfgfAfbfv f_fCfAf□fO f{fbfNfX,Å [OK] ,ðfNfŠfbfN,µ,½žž“_Å“K—p,³,è,Ü,·□B
[flfff“fzf<]	ftf@fCf< ff[]f^ f[]fX,Éü'±,¹,·,É [ODBC

ff[]f^ f[]fX fAfhf~fjXfgf[]f^] f_fCfAf[]fO
 f{fbfNfX,ð•Å,¶,Ü,·[]B[fLfff“fZf<]
 ,ðNfŠfbfN,µ,Ä,à[]Aftf@fCf< ff[]f^ f[]fX
 f{fbfNfX,Ö,ì•ï[]X,Ížæ,è[]Á,³,é,Ü,¹,ñ[]B
 [fwf<fv] fwf<fv%œ-Ê,ð•Ž!,µ,Ü,·[]B

[fRf“fsf...[]f^ ff[]f^ f[]fX] f^fu

ft[]fU[] [DSN ,Ü,½,½fVfXfef€ DSN ,ðž[],Åff[]f^ f[]fX,É[]Ú'±,µ,Ü,·[]BfRf“fsf...[]f^ ff[]f^ f[]fX,í,±
 ,ìRf“fsf...[]f^,É[]Ä-L,Ä, ,è[]A<α-L,³,é,Ü,¹,ñ[]Bft[]fU[] [ff[]f^ f[]fX,í,±,ìRf“fsf...[]f^ ,ìft[]fU[] [,É[]Ä
 -L,Ä,·[]B,±,ìRf“fsf...[]f^ ,ì,·,×,Ä,ìft[]fU[] [,Ü,½,½fVfXfef€ f[]fCfh,ìft[]fX,ì[]AfvfXfef€ ff[]f^ f[]fX,ðžg
 -p,·,é,±,Æ,³,Ä,«,Ü,·[]B

fifvfVfjf“ []à-¾

fRf“fsf...[]f^ ft[]fU[] [DSN ,ÆfvfXfef€ DSN ,ìfŠfXfg (DSN
 ff[]f^ f[]fX ,ì-¾'O,Æf^fCfv,ðŠÜ,p) ,Ä,·[]BDSN
 f{fbfNfX ,ðf_fuf·fNfŠfbfN,·,é,Æff[]f^ f[]fX,É[]Ú'±
 ,µ,Ü,·[]B

[[]V<K[]i[]-] []V,µ,çfRf“fsf...[]f^ ff[]f^ f[]fX,ð'Ç
 %œÄ,µ,Ü,·[]B,±
 ,ìf{f^f“ ,ðfNfŠfbfN,·,é,Æ[]A[ff[]f^ f[]
 []fX,ì[]V<K[]i[]-] f_fCfAf[]fO f{fbfNfX,³•\
 Ž!,³,é,Ü,·[]B,±,ìf_fCfAf[]fO f{fbfNfX,É,ìfhf
 %ofCfo,³è—•\
 Ž!,³,é,Ü,·[]Bft[]fU[] [,Ü,½,½fVfXfef€ DSN —
 p,É'Ç%œÄ,·,éfhf%ofCfo,ð'ð,µ,Ü,·[]B[ŽŽ,Ö]
 ,ðNfŠfbfN,·,é,Æ[]ADSN
 ,É'í,·,éfl[]f[]f[]fh,³K[]Ø,Ä, ,é,±
 ,Æ,ðŠm“F,Ä,«,Ü,·[]B

[OK] [ff[]f^ f[]fX,ì'ð) f_fCfAf[]fO
 f{fbfNfX,ð•Å,¶[]Af{fbfNfX,ÄfnfCf%ofCfg•\
 Ž!,³,é,Ä,ç,éRf“fsf...[]f^ ff[]f^ f[]fX,É[]Ú'±
 ,µ,Ü,·[]B

fRf“fsf...[]f^ ff[]f^ f[]fX
 f{fbfNfX,É'í,·,é•ï[]X,ð“K-p,·,é,½,β,É [OK]
 ,ðNfŠfbfN,·,é•K-v,í, ,è,Ü,¹,ñ[]BfŠfXfg
 f{fbfNfX,É'í,·,é•ï[]X,ì[]Aft[]f^ f[]
 []fX,ìfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,Ä
 [OK] ,ðNfŠfbfN,µ,½žž“_ ,Ä“K-p,³,é,Ü,·[]B

[fLfff“fZf<] fRf“fsf...[]f^ ff[]f^ f[]fX,É[]Ú'±,¹,·,É
 [ODBC ff[]f^ f[]fX fAfhf~fjXfgf[]f^]
 f_fCfAf[]fO
 f{fbfNfX,ð•Å,¶,Ü,·[]B[]mfLfff“fZf<[]n
 ,ðNfŠfbfN,µ,Ä,àRf“fsf...[]f^ ff[]f^ f[]fX
 f{fbfNfX,Ö,ì•ï[]X,Ížæ,è[]Á,³,é,Ü,¹,ñ[]B

[fwf<fv] fwf<fv%œ-Ê,ð•Ž!,µ,Ü,·[]B

ftf@fCf< ff[]f^ f[]fX f{fbfNfX

[ff[f^ f[fX,îêš] f{fbfNfX,É•Ž!,³,ê,éftfHf<f_ÉšÜ,Ü,ê,éftf@fCf< DSN ,ÆfTfufHf<f_,ð,·,×,Ä•\
Ž!,μ,Ü,·BDSN ,đf_fuf<fNfšfbfN,·,é,Æff[f^ f[fX,ÉÜ'±,μ,Ü,·B

[ff][f^ f][fX,ìéŠ]

fjfCEf“fg ftfHf<f_ ,đ•\Žì,μ,Ü,·B,» ,ì%º,ìfEfBf“fhfE,É,íAjjfCEf“fg ftfHf<f_ ,ìfTfuftfHf<f_ ,Æftf@fCf< DSN ,đ•\ Žì,³,é,Ü,·BfefLfXfg f{fbfNfX,ì%ºE‘æ,É, ,é%ºCEü,«-î^ó,đfNfŠfbfN,·,é,ÆA,» ,ìfffBfCEfNfgfŠ\‘ç‘S‘ì,đ•\ Žì,³,é,Ü,·B

[1 ,Âã,ìftHf<f_Ö] (fAfCfRf“)

[ff[f^ f[fX,ìéŠ] f{fbfNfX,É•Ž!³,é,éftHf<f_ðACE»Ý!‘ð,μ,Ä,ç,éftHf<f_ì 1
,Âã,ìftHf<f_É•ïX,μ,Ü,·B

[DSN -¼]

ftf@fCf< ff[]f^ f[][fX f{fbfNfX,Å'1'ð,³,ê,Ä,ç,éftf@fCf< DSN -¼,ð•\Ž!,μ,Ü,·□B,Ü,½,Í□A□V,μ,çftf@fCf<
DSN -¼,ð“ü—Í,Å,«,Ü,·□B

[Connect]

f{fbfNfX,ÅfnfCf%oofCf g•\Ž|,³,ê,Ä,č,éftf@fCf< DSN ,Ü,½,í [DSN -¼] f{fbfNfX,É“ü—í,³,ê,½ftf@fCf< DSN
,É□Ú'±,μ,Ü,·□B

[V<K]i]

V,μ,ϕftf@fCf< ff[f^ f[fX,δ'Ç%Á,μ,Ü,·B,±,lf{f^f“,ðfNfŠfbfN,·,é,ÆA[ff[f^ f[fX,i[V<K]i]
f_fCfAfO f{fbfNfX,ª•\Ž,³,ê,Ü,·B,±,lf_fCfAfO f{fbfNfX,É,íhf%oCfo,ª^ê—•\Ž,³,ê,Ü,·Bftf@fCf<
DSN —p,É'Ç%Á,·,éfhf%oCfo,δ'l'ð,μ,Ü,·B[ŽŸ,Ö] ,ðfNfŠfbfN,·,é,ÆAftf@fCf< DSN
,É'í,·,éL[f[fh,ðŽw'è,Á,«,Ü,·B

[OK]

[ODBC ff[]f^ f[]fX fAfhf~fjXfgf[]f^] f_fCfAf[]fO f{fbfNfX,ð•Å,¶[]Af{fbfNfX,ÅfnfCf%°fCfG•\ Ž|,³,ê,Ä,č,éftf@fCf< ff[]f^ f[]fX[]A,Ü,½,Í [DSN -¼] f{fbfNfX,É“ü—Í,μ,½ftf@fCf< ff[]f^ f[]fX,É[]Ú'± ,μ,Ü,·[]B

ftf@fCf< ff[]f^ f[]fX f{fbfNfX,É'í,·,é•İ[]X,ð“K—p,·,é,½,ß,É [OK] ,ðfNfŠfbfN,·,é•K—v,Í, ,è,Ü,¹,ñ[]BfŠfXfg f{fbfNfX,É'í,·,é•İ[]X,Í[]Aff[]f^ f[]fX,İfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,Å [OK] ,ðfNfŠfbfN,μ,½Žž“_„Å“K —p,³,ê,Ü,·[]B

[fLfff“fZf<]

ftf@fCf< fff[f^ fff[fX,Éú'±,1,,É [ODBC fff[f^ fff[fX fAfhf~fjXfgfE[f^] f_fCfAfffO
f{fbfNfX,ð•Á,¶,Ü,·BmfLfff“fZf<n ,ðfNfŠfbfN,μ,Ä,àfRf“fsf...ff[f^ fff[fX
f{fbfNfX,Ö,ì•ïX,ÍŽæ,èÁ,³,é,Ü,¹,ñB

fRf“fsf...[]f^ ff[]f^ f[]fX f{fbfNfX

ft[]fU[][DSN ,ÆfvfXfef€ DSN ,lfŠfXfg (DSN ,i-¼‘O,Æf^fCfv,ðŠÜ,þ) ,Å,·[]BDSN
.ðf_fuf·fNfŠfbfN,·,é,Æff[]f^ f[]fX,É[]Ú’±,µ,Ü,·[]B

[V<K]i~]

V,μ,ϕfRf“fsf...[f^ ff[f^ f\ [fX,δ'Ç%Á,μ,Ü,·B,±,lf{f^f“,đfNfŠfbfN,·,é,Æ[A[ff[f^ f\ [fX,ìV<K]i~]
f_fCfAfO f{fbfNfX,ª•Ž,³,ê,Ü,·B,±,lf_fCfAfO f{fbfNfX,É,ífhf%ofCfo,ª^ê—•\
Ž,³,ê,Ü,·Bf+ [fU [Ü,½,ífVfXfef€ DSN —p,É'Ç%Á,·,éfhf%ofCfo,đ'í'đ,μ,Ü,·B[ŽŸ,Ö]
,đfNfŠfbfN,·,é,Æ[ADSN ,É'í,·,éL[f[fh,ª“K]Ø,Å ,é,±,Æ,đŠm”F,Å,«,Ü,·B

[OK]

[ff[]f^ f[]fX,ì'ð] f_fCfAf[]fO f{fbfNfX,ð•Â,¶[]Af{fbfNfX,ÅfnfCf%ofCfg•\Ž!,³,ê,Ä,č,éfRf“fsf...[]f^ ff[]f^ f[]fX,É[]Ú'±,μ,Û,·[]B

fRf“fsf...[]f^ ff[]f^ f[]fX f{fbfNfX,É'Î,·,é•Ï[]X,ð“K—p,·,é,½,B,É [OK] ,ðfNfŠfbfN,·,é•K— v,Í, ,è,Û,¹,ñ[]BfŠfXfg f{fbfNfX,É'Î,·,é•Ï[]X,Í[]Aff[]f^ f[]fX,lfZfbfgfAfbfv f_fCfAf[]fO f{fbfNfX,Å [OK] ,ðfNfŠfbfN,μ,½Žž“_ ,Å“K—p,³,è,Û,·[]B

[fLfff“fZf<]

fRf“fsf...[f^ ff[f^ f[fX,ÉÚ±,1,,É [ODBC ff[f^ f[fX fAfhf~fjfXfgfCE[f^] f_fCfAfO
f{fbfNfX,ð•Â,¶,Ü,·BmfLfff“fZf<n ,ðfNfŠfbfN,μ,Ä,àfRf“fsf...[f^ ff[f^ f[fX
f{fbfNfX,Ö,ì•ïX,ÍŽæ,èÁ,³,é,Ü,¹,ñB

[Ů'±fv[f<] f^fu

Ů'±fv[f<,đŽg—p,μ,Ä,č,é,Æ,«,ÉA'í'đ,μ,½fhf
 %ofCfo,ìŮ'±'ò,žžšô,“,æ,ŇŮ'±f^fCf€fAfEfg,ìžžšô,đ•ïX,Ä,«,Ü,·B,Ü,½AŮ'±
 %oň“”,ì“CEv,đ~L^,·,épfH[f]f“fX f,fjf^,đ—LCEø,Ü,½,Í-³CEø,É∅,è'Ö,ì,é,±,Æ,ª,Ä,«,Ü,·B

fjfvVfjf“	à-¾
[ODBC fhf %ofCfo] f{fbfNfX	fRf“fsf...[f^,ÉfCf“fXfg[f<,³,è,Ä,č,éŠe ODBC fhf%ofCfo,É,Ä,č,ÄA- ¼'O,“,æ,Ňfv[f< f^fCf€fAfEfg,đ•\ Ž!,μ,Ü,·B
[Ů'±fv[f<,]f^f Cf€fAfEfg]	'í'đ,μ,½fhf%ofCfo,ìŮ'±fv[f< f^fCf€fAfEfg,đ•b'P^É,ÄŸ'è,μ,Ü,·BŮ'±fv [f<,ì'@<,đŸ'è,·,é,É,íAfhf%ofCfo- ¼,đf_fuf<fNfŠfbfN,μ,Ü,·B
[—LCEø,É,·,é]	fpftfH[f]f“fX f,fjf^,đ—LCEø,É,μ,Ü,·B
[-³CEø,É,·,é]	fpftfH[f]f“fX f,fjf^,đ-³CEø,É,μ,Ü,·B
[ÄŽŽs,Ü,Ä,ì' ò,žžšô]	ODBC fhf%ofCfo f}fì[fWff,É,æ,èff[f^fx[fX fT[fò[,ìŽg— p,ªs%oÄ“\,Ä, ,é,± ,Æ,ªCEŸ'm,³,è,é,ÆA^è'è,ì'ò,žžšô,ìCEä,É Ů'± ,ªÄŽŽs,³,è,Ü,·B[ÄŽŽs,Ü,Ä,ì'ò,žžšô] ,Ä•b'P^É,ÄŸ'è,μA'ò,žžšô,đ'²B,Ä,«,Ü, B“ü—í,·,é'l,íA“Žš,Ä 6 CE...-č-ž,É,·,é•K —v,ª, ,è,Ü,·B
[fwf<fv]	fwf<fv,đ•Ž!,μ,Ü,·B

[Ů'±fv[f<,]f^fCf€fAfEfg]

'í'đ,μ,½fhf%ofCfo,]f^fCf€fAfEfgžžšô,đ•b'P^É,Äžw'è,μ,Ü,·B“ü—í,·,é'l,í“žš,É,·,é•K—v,ª, ,è,Ü,·B

[—LŒø,É,·,é]

□Ú'±,ìjpfth□[f}f“fX f,ffj^,ð—LŒø,É,μ,Û,·□B

[-³Œø,É,·,é]

□Ú'±,ìfpftfH□[f}f“fX f,ffj^,ð-³Œø,É,μ,Û,·□B

[ÄŽŹs,Ü,Ä,ì'ò,žžšô]

ÄÜ'±,Ü,Ä,ì'ò,žžšô,ð•b'P^Ê,Äžw'è,µ,Ü,·B

[OK]

[ODBC ff[f^ f[fX fAfhf~fjfXfgfCE[f^] f_fCfAf[fO f{fbfNfX,ð•Â,¶A'l'ð,μ,½Ú'±fv[f<,}f|fvfVf†f“,ð—
LCEø,É,μ,Û,·B

[fLfff“fZf<]

'l'ö,µ,½f|fvfVf†f“,ð—LÆø,É,¹,.,É [ODBC ff□[f^ f□[fX fAfhf~fjfXfgfÆ□[f^] f_fCfAf□fO
f{fbfNfX,ð•Â,¶,Ü,·□B

[fo][fWfjf“[i•ñ] f^fu

ODBC fRf“f[fif“fg,É,Â,ç,Ä,Ì[i•ñ,ð•\Ž!,μ,Û,·B[i•ñ,a•\Ž!,³,ê,éfRf“f[fif“fg,É,Í[Afhf%ofCfo
f}f[fWff[Af][f\< f%ofCuf%ofŠ[AfCf“fXfg[f% DLL[A,“,æ,ÑfRfA fRf“f[fif“fg,ð\
[¬,·,é,»„,ì¹¼,ìftf@fCf<,ªŠÛ,Û,ê,Û,·B

fifvfVfjf“

[à-¾

[ODBC fRfA Še ODBC fRfA fRf“f[fif“fg,ìà-
fRf“f[fif“fg ¾[Afo[fWfjf“[Aftf@fCf<-
fo[fWfjf“[i•ñ ¼[A,“,æ,Ñ[êŠ,ð•\Ž!,μ,Û,·B
]

f{fbfNfX

[OK] [ODBC ff[f^ f\ [fX fAfhf~fjfXfgfC[f^]
f_fCfAf[fO f{fbfNfX,ð•\Ž!,μ,Û,·B

[fLfff“fZf<] [ODBC ff[f^ f\ [fX fAfhf~fjfXfgfC[f^]
f_fCfAf[fO f{fbfNfX,ð•\Ž!,μ,Û,·B

[wf<fv] fwf<fv,ð•\Ž!,μ,Û,·B

—pCEêW

2 ftjF[]fY fRf~fbfg • aŽUfgf%of“fUfNfVf#f” ,đ 2 ftjF[]fY (‘Š) ,ÁfRf~fbfg , ,éfvf[]fZfX[]B[]Á[]%o ,ìftjF[]fY ,Á ,í[]Afjg%of“fUfNfVf#f” fvf[]fZfbfT ,É ,æ ,è[]Afjg%of“fUfNfVf#f” ,ì , ,x ,Á ,ì • “•a ,áfRf~fbfg%oÁ”\ ,Á , ,é ,± ,Æ ,aŠm”F ,³ ,é ,Ü , ·[]BŽŸ ,ìftjF[]fY ,Á ,í[]Afjg%of“fUfNfVf#f” ,ì , ,x ,Á ,ì • “•a ,áfRf~fbfg ,³ ,é ,Ü , ·[]B[]Á[]%o ,ìftjF[]fY ,Á ,í[]Afjg%of“fUfNfVf#f” ,ì ^ê • “ ,áfRf~fbfg •s%oÁ”\ ,Á , ,é ,Æ” » f ,³ ,é ,é ,Æ[]AZŸ ,ìftjF[]fY ,íŽA[]s ,³ ,é ,Ü , ,í ñ[]BODBC , Á , í 2 ftjF[]fY fRf~fbfg ,ìftjF[]fY ,³ ,é ,Ü , ,í ñ[]B

A

ANSI • Ä[]<KŠi< ;%oi (American National Standards Institute) ,ì—[]BODBC API , í ANSI ÇÄ ,Ñ[]o ,µfÇfxf< fCf“f^[]ftjFfCfX ,É[]€< ,µ ,Ä ,ç ,Ü , ·[]B

APD fAfVfŠfP[]fVf#f“ fpf%of[]f^<L[]qŽq (Application Parameter Descriptor) ,ì—[]B

API fAfVfŠfP[]fVf#f“ fvf[]fOf%of~f“fO fCf“f^[]ftjFfCfX (Application Programming Interface) ,ì— []BfAfVfŠfP[]fVf#f“ ,áf[]fÇfxf< fT[]fRfX ,ì—v<[] ,ÆŽÄ[]s ,ÉŽg—p , ,é[]A^ê~A ,ìf<[]f“f” ,Á , ·[]BODBC API , í ODBC ŠÖ[]” ,Á[]\ ,³ ,é ,Ä ,ç ,Ü , ·[]B

ARD fAfVfŠfP[]fVf#f“ []s<L[]qŽq (Application Row Descriptor) ,ì—[]B

B

BLOB fofCfifŠ f%o[]fW flfufWfFfNfg (Binary Large Object) ,ì—[]B255 fofCfif ,É ,Ç[]A“Á”è ,ìfofCfif[] ,đ’ , ,ì ,é ,fofCfifŠ f[]f^ ,Á , ·[]B’É[]([]A’á[]CE^ ,ìff[]f^ ,đŽw ,µ ,Ü , ·[]B , ± , ì , æ , x , È , ff[]f^ , đff[]f^ f[]fX , É’—[]M , , ,é[]è[]# , á[]Aff[]f^ f[]fX , © , çŽæ”¾ , , ,é[]è[]#[]Aff[]f^ , í •aŠ , , ,³ , é , Ü , ·[]B , ± , ì , æ , x , È , ff[]f^ , í “f[]f“fO f[]f^” ,Æ , à[]ÇÄ , ì , é , Ü , ·[]B

C

C ff[]f^Ç^ C fvf[]fOf%of€ (, ± , ì[]è[]#[]AfAfVfŠfP[]fVf#f”) ,ÉŠÜ , Ü , é , é • Ì[]” ,ìff[]f^Ç^[]B

CLI []uAPI[]v ,đŽQ[]Æ , µ , Ä , ,¾ , ,³ , ç[]B

D

DBMS fff[]f^fx[]fXŠÇ—[]fVfXfef€ (Database Management System) ,ì—[]B • “— []” , Ì , È , ff[]f^fx[]fX ,Æf[]fU[][ŠÔ ,É’¶[]Ÿ , , ,é ,ftjgfeffA ,ìfÇfCf , , ,Á , ·[]BDBMS ,Á , í[]Aff[]f^fx[]fX , Ö , ì , , x , Á , ìfAfNfZfX , aŠÇ—[] ,³ , é , Ü , ·[]B

DBMS fx[]fX ,ìfhf%ofCfo fx^f“fhfAf[]f” ,ìff[]f^fx[]fX fGf“fwf” ,ðCe—R , µ , Ä , • “— []” , Ì , È , ff[]f^ ,ÉfAfNfZfX , , ,é ,fhf%ofCfo[]B

DDL fff[]f^è<`Ç¾Çè (Data Definition Language) ,ì—[]BSQL “à ,Áff[]f^ ,ð’€[] , , ,é , ì , Á , Ì , È , - []A’è< , , ,é ,Xfe[]fjg[]f”fg ,Á , ·[]B—á , Ì , í[]ACREATE TABLE[]ACREATE INDEX[]AGRANT[]AREVOKE ,É , Ç , Á , ·[]B

DML fff[]f^€[]Ç¾Çè (Data Manipulation Language) ,ì—[]BSQL “à ,Áff[]f^ ,ð’è< , , ,é , ì , Á , Ì , È , - []A’€[] , ðs , È , x , ½ , ß , ÌfXfe[]fjg[]f”fg ,Á , ·[]B—á , Ì , í[]AINSERT[]AUPDATE[]ADELETE[]ASELECT ,É , Ç , Á , ·[]B

F

Fat fj[]fj< []ufuf[]fbfN fj[]fj<[]v ,đŽQ[]Æ , µ , Ä , ,¾ , ,³ , ç[]B

I

IPD fCf“fvfŠf[]f“fe[]fVf#f” fpf%of[]f^<L[]qŽq (Implementation Parameter Descriptor) ,ì—[]B

IRD fCf“fvfŠf[]f“fe[]fVf#f” []s<L[]qŽq (Implementation Row Descriptor) ,ì—[]B

ISO/IEC — (International Standards Organization)/ (International Electrotechnical Commission), ISO/IEC CEÄ, Ño, µfCExf< fCf^f^ftfFfCfX, É€', µ, Ä, ç, Ü, ·B

N

NULL 'I — ¼Ž! 'I, ÉŠ,, è" —, Ä, ç, è, ½ 'I, ä, È, ç, ±, ÆBNULL 'I, A0 , Ü, ½, Í<ó" , Æ, Í' Ü, È, è, Ü, ·B

O

ODBC — fllfjvf" fflf^fxllfX fRfjNfefBfrefeB (Open Database Connectivity), Ì— ãBf<llf" f", Ì•W€fZfbfg, ð'è<` , , é API , ÌŽd—l, Ä, ·B, ±, Ìf<llf" f", Ì•W€fZfbfg, ðfAfvfŠfPllfjvf" , Äžg— p, µ, ÄAfffllf^ flfX, ÉŠÜ, Ü, è, éffllf^ , ÉfAfnfZfX, , , é, ±, Æ, ä, Å, «, Ü, ·B

ODBC SDK — ODBC Software Development Kit, Ì— ãBODBC fAfvfŠfPllfjvf" , Æfhf%ofCfo, ÌŠj" , ðŽx %o‡, , é»•i, Ä, ·B

ODBC fAfhf~fjXfgfCEllf^ — fCf"fxfgllf% DLL , ðCEÄ, Ño, µ, ÄAfffllf^ flfX, ðÝ'è, , éŽÀs%oÄ" \ fvfllf%of€B

S

SAG — SQL Access Group, Ì— ãBSQL DBMS , ÉŠÖs, ðŽ, ÄŠé<Æ, ÌH<Æ<«" — 'I, Ä, ·BX/Open CEÄ, Ño, µfCExf< fCf" f^ftfFfCfX, ÌASQL Access Group , É, æ, éCE«†, ÉŠî, Ä, ç, Ä, ç, Ü, ·B

SQL — ll'ç%o»llÆ%oiCE¾CEê (Structured Query Language), Ì— ãBffllf^ , ÌNfGfŠAAXVVA, , , æ, ÑŠÇ —, ðs, x, ½, ß, ÉAfvfŠfCEllfjvfjif< fflf^fxllfX, Äžg—p, ¾, è, éCE¾CEê, Ä, ·B

SQLSTATE — "Ä'è, ÌfGf%o, ðŽ!, ·A5 •Ÿš, Ì' B

SQL fxfe llfgfllfg" fg — flllfllfh, Äžn, Ü, è, ÌAŽÀs, ¾, è, éfAfnfVfj" , ðŠ@'S, É<Lllq, , éllASQL , ÌŠ@'S, ÉftfCEllfYB—á, Ì, ÌASELECT * FROM Orders , È, Ç, Ä, ·BSQL fxfe llfgfllfg" fg, Æfxfe llfgfllfg" fg, Ì' Ü, È, è, Ü, ·B

SQL fflf^CE^ — ñ, Ü, ½, Ìfpf%ofllf^ , Ìffllf^CE^Bffllf^ flfX, É•Ü'Ÿ, ¾, è, Ä, ç, éffllf^CE^ , Æ"— Ì, Ä, ·B

SQL "KllfCExf< — fhf%ofCfo, ÄfTfllfg, ¾, è, é SQL92 •Ÿ-@, ÌfCExf<BfCExf<, É, ÌAEntryllAFIPS TransitionalllIntermediateA, Ü, ½, Í Full , ä, , è, Ü, ·B

X

X/Open — •WllÆ, È, è, ðCE, ð" s, , éŠé<ÆBSAG Šîll€, ð" s, µ, Ü, ·B

fAfnfZfX fvf%of" — SQL fxfe llfgfllfg" fg, ðŽÀs, , é, ½, ß, Éffllf^fxllfX fGf"fwf" , Äll—, ¾, è, éfvf%of"BC CE¾CEê, È, Ç, Ì'æ 3 llç'äCE¾CEê, ÄfRf"fpfCf<, ¾, è, éŽÀs%oÄ"vRllfh, Æ"—™" , Ìfvf%of" , Ä, ·B

fAfvfŠfPllfjvf" — ODBC API , ÄŠÖ" , ðCEÄ, Ño, ·ŽÀs%oÄ"vfvllf%of€B

fAfvfŠfPllfjvf"lls<Lllqžq (ARD) — ñ, Ìfllf^ffllf^ , , æ, ÑfAfvfŠfPllfjvf" , Ìfofbftf@, ÉŠÜ, Ü, è, éffllf^ , ð\ , <LllqžqBfAfvfŠfPllfjvf" , É, æ, Ä, Äžw'è, ¾, è, éffllf^ •İŠ , ÌCEä, Éffllf^lls, ð•\, µ, Ü, ·B

fAfvfŠfPllfjvf" fpf%ofllf^<Lllqžq (APD) — fAfvfŠfPllfjvf" , É, æ, Ä, Äžw'è, ¾, è, é•İŠ , Ì'O, É SQL fxfe llfgfllfg" fg, Äžg—p, ¾, è, é"llfpf%ofllf^ , ð•\, <LllqžqB

^É'užw'èllXVfxfe llfgfllfg" fg — CE»Ÿ, Ìs, ÉŠÜ, Ü, è, é'l, ðXV, , é SQL fxfe llfgfllfg" fgB

^É'užw'èllllæfxfe llfgfllfg" fg — CE»Ÿ, Ìs, ðllæ, , é SQL fxfe llfgfllfg" fgB

^É'užw'è'€ CE»Ÿ,ìs,Ås,í,ê,é,·,x,Ä,Ì'€ B—
á,ì,ÎA^É'užw'èXV,“,æ,Ñ^É'užw'èœfXfe[fgf“fgASQLGetDataASQLSetPos ,È,Ç,Å,·B

fCf“fXfg[f% DLL ODBC frf“f[lfif“fg,ðfCf“fXfg[f<,μAff[f^ f[fX,ðŸ'è,·,é DLLB

fCf“f^ [ftfFfCfX“K#fCfxf< fhf%ofCfo,ÅTf|[fg,³,è,é ODBC 3.7
fCf“f^ [ftfFfCfX,ìfCfxf<BfCfxf<,É,ìfRfA AfCfxf< 1A,Ü,½,ìfCfxf< 2 ,ª, ,è,Ü,·B

fCf“fvfŠf[f“fe [fVfjf““s<Lqžq (IRD) fAfvfŠfP[fVfjf“ ,É,æ,èŽw'è,³,è,é•İŠ·,ì'O,Éff[f^s,ð·\
,<LqžqB

fCf“fvfŠf[f“fe [fVfjf“ fpf%o[f^<Lqžq (IPD) fAfvfŠfP[fVfjf“ ,É,æ,èŽw'è,³,è,é•İŠ·,ìCEä,É
SQL fXfe[fgf“fg“à,ÅŽg—p,³,è,é“®“lfpf%o[f^ ,ð·\,<LqžqB

^ø—p·„•t,«Ž·ÉŽq ^ø—
pŽ·ÉŽq,Å'í,Ü,è,½Ž·ÉŽqB<æ∅,è<L+•t,«Ž·ÉŽq,Å,ìA“ÁŽè•ŸŽš,ðŠÜ,ß,½,èAfl[f[fh,ð^è'v,³,¹,
é,±,Æ,ª,Å,«,«,Ü,· (SQL92 ,Å,ìA<æ∅,è<L+•t,«Ž·ÉŽq,Æ,àCEÄ,Ì,è,Ü,·)B

-„„ßž,ŸCE^ SQL COBOLAC ,È,Ç,ì•É,ìCE¾CEè,Å<Lq,³,è,½fvf[fOf%of€,É'¼Ú—„„ßž,Ü,è,Ä,ç,é SQL
fXfe[fgf“fgBODBC ,Å,ìA—„„ßž,ŸCE^ SQL ,ìŽg—p,μ,Ü,¹,ñB[u“I SQLv,“,æ,Ñu“®“I
SQLv,àŽQÆ,μ,Ä,¾,¾,çB

fGfXfP[fv<â SQL fXfe[fgf“fg,ì<âB

fIfNfefbfg 8 frfbfg,Ü,½,í 1 fofCfB[ufofCfBv,àŽQÆ,μ,Ä,¾,¾,çB

fIfNfefbfg'· fIfNfefbfg,Å·\,³,è,é Afofbftf@,Ü,½,í,»,è,ÉŠÜ,Ü,è,éff[f^,ì',³B

fIfvfeBf~fXfeBfbfN“ŽžŽÀs§CEä “ŽžŽÀs§CEä,ðCEüä,³,¹,é,½,ß,ì•û-@B,±,ì•û-
@,Å,ìAAs,ìfBfN,³,è,Ü,¹,ñ,ªAAs,ªXV,Ü,½,ìíœ,³,è,é'O,É Afj[fA
f<,É,æ,èAAs,ìA“C,ŸŽæ,èŽž'È~ ,Éps,ª•ìX,³,è,Ä,ç,é,©,Ç,ª,©,ªSm“F,³,è,Ü,·B•ìX,³,è,Ä,ç
,éè±,ìAAXV,Ü,½,ìíœ,ìŽÀs,Å,«,Ü,¹,ñB[ufyVf~fXfeBfbfN“ŽžŽÀs§CEäv,ðŽQÆ,μ,Ä,-
,¾,¾,çB

, ©

fj[fvf< fAfvfŠfP[fVfjf“ ,Éff[f^s,ð·Ô·fvtfgEfffA,ì^è•“B“fj[fvf<“ ,ÆCEÄ,Ì,è,é,ì AfRf“fsf...
[f^'[-,Å·\Ž,³,è,é“_Afj[fvf<,ª%æ-Éä,Å,ìCE»Ÿ^É'u,ðŽ!,·,æ,ª,É ACE<%Éfzfbfg,ìj[fA
f<,ªCE<%Éfzfbfg“à,Å,ìCE»Ÿ^É'u,ðŽ!,·,½,ß,Å,·B

ŠO·“fL [,Ü,©,ìfe[fuf<,ìžâfL[,Æ^è'v,·,é Afef[fuf<“à,ì 1 ,Å,Ü,½,í·;],ì—ñB

ŠO·“CE<# ^è'v,·,éps,“,æ,Ñ^è'v,μ,È,çps,ì—¼•û,ª•Ô,³,è,éCE<#B^è'v,μ,È,çps,ÉŠÜ,Ü,è,éè'v,μ,È,ç
,·,x,Ä,ì—ñ,ì'ì,ì NULL ,ÉŸ'è,³,è,Ü,·B

CE^fCf“fwfP[f^ fAfvfŠfP[fVfjf“•ì“ Afpf%o[f^A,Ü,½,í—ñ,ìff[f^CE^ ,ðŽ!,·,½,ß,É ODBC
ŠÖ“ ,É^ø,«“n,·A,Ü,½,ì ODBC ŠÖ“ ,©,ç•Ô,³,è,é@““BODBC ,Å,ìAC ,“,æ,Ñ SQL ,ì—
¼•û,ìCE^fCf“fwfP[f^ ,ª'è<,³,è,Ü,·B

fj^fjfo ff[f^fx[fX,ìCE^Ž@,ð·\, Af[f^fx[fX,ÉŠÜ,Ü,è,éè~A,ìfvXfefe f[fuf<B“fxfL[f}”
,Ü,½,í “ff[f^Ž<““ ,Æ,àCEÄ,Ì,è,Ü,·B

fj^fjfošö“ ff[f^fx[fX,ìj^fjfo,©,çî•ñ,ðŽæ“¾,·,é ODBC ŠÖ“B

ŠÄ« ff[f^ ,Ö,ì AfNfzfx,ðps,xfOf[fof<,ÈfRf“fefLxfBŠÄ« ,ÉŠÜ,Ü,è,Ä,ç,é,·,x,Ä,ìÚ'±
,ìšfxfg,È,Ç AfOf[fof<,Éî•ñ,ªŠÄ« ,ÉŠÖ~A•t,·,ç,è,Ä,ç,Ü,·B

ŠÄ«fnf“fhf< ŠÄ« ,ÉŠÖ,·,éî•ñ,ðŠÜ,þff[f^<“ç,É'í,·,éfnf“fhf<B

fL [ps,ðŽ·É,·,é'ì,ðŠÜ,p 1 ,Å,Ü,½,í·;],ì—ñB[užâfL[v,“,æ,ÑuŠO·“fL[v,àŽQÆ,μ,Ä,-
,¾,¾,çB

fL[fZfbfg p,s,lfTfFbf^,dZÀs,·,é·;□#f□[f^<,Ü,½,ÍfL[fZfbfgfhfŠfuf“ f□[f^<,ÁŽg—
p,³,è,é^è~A,ÍfL□□B

fL[fZfbfgfhfŠfuf“ f□[f^< fL[fZfbfg,đŽg—
p,μ,Ä□A□X□V,“,æ,Ñ□í□œ,³,è,½□s,đCEŸ□o,·,éfXfNf□□[f^<%Ä“\f□[f^<□B

<L□qŽq —ñff□[f^<,Ü,½,Í“@“lfpf%□□[f^<,l,Ç,ž,ç,©,ÉŠÖ,·,é□í·ñ,đŠÜ,þff□[f^<□□B<L□qŽq,ì·” —
□“l,É·\Žl,í'è<“,³,è,Ü,¹,ñ□BfAfvfŠfP□[fVf#f“,©,ç<L□qŽq,Ö,ì'¼□Ú“l,ÉfAfNfZfX,Í□AODBC
ŠÖ□“,Æ<L□qŽqfñf“fhf<,đCEÄ,Ñ□o,μ,ÄftfB□[f^<fh,đ'€□,·,é,±,Æ,É,æ,Ä,Ä,ì,Y%Ä“\,É,É,è,Ü,·□B

Ší□” □“ìCen,ÌŠí□□BfRf“fsf...□[f^<,Á,Í 2 (2 □í□)“,â 10 (10 □í□)“,ª½,Žg,í,è,Ü,·□B

□s “Á'è,ìŽÀ'ì,đ·\,·□A'è~A,ÌŠÖ~A,μ,½—ñ□B“fCEfR□[f^<fh“ ,Æ,àCEÄ,Í,è,Ü,·□B

□s<L□qŽq fAfvfŠfP□[fVf#f“,É,æ,èŽw'è,³,è,é·İŠ·,ì'O (fCf“fvfŠfP□[fVf#f“□s<L□qŽq,Ü,½,Í
IRD)□A,Ü,½,Í·İŠ·,ìCEä (fAfvfŠfP□[fVf#f“□s<L□qŽq,Ü,½,Í ARD) ,ì,ç,·,é,©,É□ACE<%ÉfZfbfg,ì—ñ,đ·\
,<L□qŽq□B

□sfXfe□[f^fX”z—ñ SQLFetch□ASQLFetchScroll□A,Ü,½,Í SQLSetPos
,đCEÄ,Ñ□o,μ,½CEä,ì□s,ÍfXfe□[f^fX,đŠÜ,p”z—ñ□B

□sfZfbfg fuf□fbfN f□[f^<,É,æ,è□A'P'è,lfTfFbf^,Á·Ö,³,è,é^è~A,ì□s□B

□sfZfbfg fofbftf@ CE<%ÉfZfbfg,ì—ñ,ÉCE<□#,μ,Ä,ç,éfofbftf@□B□sfZfbfg'S'ì,Íff□[f^<,ª·Ö,³,è,Ü,·□B

□s'€□ì”z—ñ “Á'è,ì'l,đŠÜ,p”z—ñ□B,±,ì'l,Í□AfvfŠfP□[fVf#f“,É,æ,Ä,ÄŸ'è,³,è□ASQLSetPos
,đŽÀ□s,·,é□Ú,É□A'í%ž,·,é□s,ª-³Ž<,³,è,é,±,Æ,đŽl,μ,Ü,·□B

fNfGfŠ SQL fXfe□[fgf□f“fg□BSELECT fXfe□[fgf□f“fg,ì^Ó-;ÁŽg—p,³,è,é□è□#,à, ,è,Ü,·□B

<æ□Ø,è<L□t·t,«Ž~·ÉŽq ^ø—
pŽ~·ÉŽq,Á'í,Ü,è,½Ž~·ÉŽq□B<æ□Ø,è<L□t·t,«Ž~·ÉŽq,Á,Í□A'ÁŽè·¶Žš,đŠÜ,ß,½,è□Afl□[f□□[fh,đ'è'v,³,¹,
é,±,Æ,ª,Ä,«,Ü,· (“ø—p·,·,·t,«Ž~·ÉŽq” ,Æ,àCEÄ,Í,è,Ü,·)□B

fNf%□CfAf“fg/fT□[fo□[ff□[f^fX□[fX,ÍfAfNfZfX·ú-@,ì^èŽí□B1 ,Á,Ü,½,Í·;□“,ÍfNf
%□CfAf“fg,ªfT□[fo□[CEo—R,Áff□[f^<,ÉfAfNfZfX,μ,Ü,·□B'É□□AfvfNf
%□CfAf“fg,Á,Íft□[fU□[fCf“f^□[ftfFfCfX,đŽÀ'·,μ□Aft□[fo□[,Á,Íff□[f^fX□[fX,Ö,ÍfAfNfZfX,đ□sCEä,μ,Ü,·□B

CE<%ÉfZfbfg SELECT fXfe□[fgf□f“fg,đŽÀ□s,·,é,±,Æ,É,æ,è□í□-³,è,é^è~A,ì□s□B

CE<□# fŠfCE□[fVf#fjif< ff□[f^fX□[fX“à,Á□s,ª'€□□BfŠfCE□[fVf#fjif< ff□[f^fX□[fX“à,Á□A'è,è,ì—
ñ,ÉŠÜ,Ü,è,é'l,đ'è'v,³,¹,é,±,Æ,É,æ,è□A·;□“,Ífe□[fuf<“à,ì□s,đCEŸ,ç,ÉfŠf“fN,³,¹,Ü,·□B

CE»Ÿ,ì□s f□[f^<,ÁCE»ŸfJfCf“fg,³,è,Ä,ç,é□s□B'É'uŽw'è'€□,ìCE»Ÿ,ì□s,ÁŽÀ□s,³,è,Ü,·□B

fRf~fbfg (,·,é) fgf%□f“fUfNfVf#f“,Á,ì·í□X,đ%□i<v“l,É·Ú·¶,·,é,±,Æ□B

,³

fT□[fo□[ff□[f^fX□[fX fNf%□CfAf“fg/fT□[fo□[ŠÄ<<,ÁŽÀ□s,·,é,æ,ª,ÉfffUfCf“,³,è,½ DBMS□BSQL
,·,æ,Ñfgf%□f“fUfNfVf#f“,đ'½□É,É<@“\,Áftf□[fg,·,éfXf^f“fhfAf□f“,Íff□[f^fX□[fX
fgf“fWf“,ªŠÜ,Ü,è,Ü,·□B,±,ì DBMS,Í□ADBMS fX□[fX,Ífhf%□Cf□,đŽg—p,μ,ÁfAfNfZfX,Á,«,Ü,·□B—
á,ì,Í□AOracle□Alformix□ADB/2□AMicrosoft SQL Server ,É,Ç,Á,·□B

ftf“fLf“fo 16 frfbfg fAfvfŠfP□[fVf#f“,Á 32 frfbfg ODBC fhf%□Cfo,ªŽg—p,³,è,Ä,ç,é□è□#,ì□A16
frfbfg fAfhfCEfX,©,ç 32 frfbfg fAfhfCEfX,Ö,ì·İŠ·□A,Ü,½,Í,·,ì<t□B

ŽÀ□s (,·,é) SQL fXfe□[fgf□f“fg,đ□^—□,·,é,±,Æ□B

ŽÀ□sŽžff□[f^ fpf%□□[f^ SQLExecute ,Ü,½,Í SQLExecDirect ,ªCEÄ,Ñ□o,³,è,½CEä,Éff□[f^<,ª—
□M,³,è,éfpf%□□[f^<□Bff□[f^<,ªfpf%□□[f^< fofbftf@,É'u,©,è,é,ì,Á,í,É,□ASQL
fXfe□[fgf□f“fg,ìŽÀ□sŽž,Éff□[f^<,ª—□M,³,è,é,½,ß□A“ŽÀ□sŽžff□[f^< fpf%□□[f^<

,ÆCEÄ,Î,ê,Û,·□B'Ê□□A□f"fo f□□f^,Í•âš,,,³,ê,ÄŽÄ□sŽž,É'—□M,³,ê,Û,·□B

ŽÄ□sŽžff□f^—ñ SQLSetPos,æCEÄ,Ñ□o,³,ê,½CEä,Éff□f^,æ'—□M,³,ê,é—ñ□Bff□f^,æ□sfZfbfg
fofbftf@,É'u,©,ê,é,Î,Ä,Í,Ë,□AŽÄ□sŽž,É'—□M,³,ê,é,½,β□A"ŽÄ□sŽžff□f^—ñ"
,ÆCEÄ,Î,ê,Û,·□B'Ê□□A□f"fo f□□f^,Í•âš,,,³,ê,ÄŽÄ□sŽž,É'—□M,³,ê,Û,·□B

Ž"®fRf~fbfg f,□lfh fgf%of"fuFNFVf+f" fRf~fbfg f,□lfh,î^èží□Bfgf
%of"fuFNFVf+f",æŽÄ□s,³,ê,½'¼CEä,É□A,»,lfgf%of"fuFNFVf+f",æfRf~fbfg,³,ê,Û,·□B

□WCEvŠÖ□" 'l,lfOf□□fv,©,ç'P^è,î'l,ð□□-,·,éšÖ□"□B½,,î□é□□AGROUP BY,·,æ,Ñ HAVING <â,Æ•¹
—p,³,ê,Û,·□B□WCEvŠÖ□",É,Í AVG□ACOUNT□AMAX□AMIN□A,·,æ,Ñ SUM ,æšÛ,Û,ê,Û,·□B□WCEvŠÖ□",Í
"fzfbfgšÖ□" ,Æ,æCEÄ,Î,ê,Û,·□B□ufXfjf%šÖ□"□v,àžQ□Æ,μ,Ä,,¾,³,ç□B

□C□üžq 1 ,Ä,Û,½,Í•□",lfe□□fuf<,æšÛ,Û,ê,éff□f^fx□□fX□B

ŽâfL□ fe□□fuf<,l□s,ð^è^Ó,Éž·Ê,·,é 1 ,Ä,Û,½,Í•□",l—ñ□B

Žè"®fRf~fbfg f,□lfh fgf%of"fuFNFVf+f" fRf~fbfg f,□lfh,î^èží□Bfgf%of"fuFNFVf+f",Í□ASQLTransact
,ðCEÄ,Ñ□o,·,±,Æ,É,æ,è□A-¾ž"l,ÉfRf~fbfg,³,ê,é•K—v,æ,è,Û,·□B

□€"ö (·,é) SQL fXfe□□fg□□f"fg,ðfRf"fpfCf<,·,é,±,Æ□BSQL fXfe□□fg□□f"fg,ð□€"ö,·,é,±
,Æ,É,æ,è□A□f□f□fX fvf%of",ð□□-,μ,Û,·□B

□ó'Ö □Ü,μ,□à-¾,³,ê,½□A□f□C□f□€",lfRf"fffBfVf+f"□B—á,î,Í□A□Ü'±,É,Í 7 ,Ä,î□ó'Ö (š,,,è—
,Ä,É,μ□Aš,,,è—,Ä□í,Ý□A□Ü'±□í,Ý□A—vff□f^,È,Ç) ,æ,è,Û,·□B□f□f□C□f□€
,æ"Á'è,î□ó'Ö,Ä,·,é□é□#,É,Í,ÝŽÄ□s,³,ê,é€□,à,è,Û,·□B—á,î,Í□A□Ü'±,î%ð□œ,í□A□Ü'±,î□ó'Ö,æ"š,,,è—
,Ä□í,Ý" ,Ä,·,é□é□#,É,Í,Ý%Ä"\,Ä,è□A"□Ü'±□í,Ý" ,î□ó'Ö,È,Ç,Ä,ÍŽÄ□s,³,ê,Û,¹,ñ□B

□ó'Ö,î•İš· fA□f□C□f□€,î□ó'Ö,î•İ%»□BODBC ,Ä,í□AšÄ«□A□Ü'±□A,·,æ,ÑfXfe□□fg□□f"fg,ì□œμ-
š,È□ó'Ö,î•İš·,æ'è<,³,ê,Û,·□B

□š—LžÒ fe□□fuf<,l□š—LžÒ□B

□f'f □A□CEä,ÉCEÄ,Ñ□o,³,ê,½□A'Á'è,lfnf"fhf<,ðžg—p,·,éšÖ□",É,Ä,ç
,Ä,î□f'f□í•ñ,ðšÛ,p□f□f□R□□f□h□B□f'f□f□f□f□f,í□AšÄ«□A□Ü'±□A□f□f□f□f"fg□A,·,æ,Ñ<L□qžqfnf"fhf<,Æš
Ö~A•t,·,ç,ê,Ä,ç,Û,·□B

fXfjf%šÖ□"

'P^è,î'l,©,ç'P^è,î'l,ð□□-,·,éšÖ□"□B—á,î,Í□A•¶žš—ñff□f^,î'â•¶žš/□-•¶žš,ð•İš·,·,éšÖ□",È,Ç,Ä,·□B

fXfL□{f} □ufjf^f□f□v,ðžQ□Æ,μ,Ä,,¾,³,ç□B

fXfNf□□{f<%Ä"vf□{f< CE<%ÉfZfbfg,Á'O•û,Û,½,íCEä•û,É^Ú"® ,Ä,«,éjf□□f<□B

fXfe□□fg□□f"fg SQL fXfe□□fg□□f"fg,ÉšÖ,·,é,·,x,Ä,î□í•ñ,ð•Ü'¶,·,éRf"fe□□BfXfe□□fg□□f"fg,Æ SQL
fXfe□□fg□□f"fg,Í^Û,È,è,Û,·□B

fXfe□□fg□□f"fg fnf"fhf< fXfe□□fg□□f"fg,ÉšÖ,·,é□í•ñ,ðšÛ,pff□f^□\ç,É'í,·,éfnf"fhf<□B

fXfgfAfh fvf□fV□□fWff □ufvf□fV□□fWff□v,ðžQ□Æ,μ,Ä,,¾,³,ç□B

□®□#<<%»<@" \ f□□f^f□□fX,î□®□#<<,ð^Üž□,·,é,½,β,ÉfffUfCf",³,ê,½□ASQL ,lfTfufZfbfg□B

□Ä"l SQL -,β□ž,ÝCE^ SQL ,î^èží□BSQL fXfe□□fg□□f"fg,æfn□□fhfR□□fh%»»,³,ê,Ä,·,è□A□f□□f□f%of€
,ì,Û,©,î•"•æ,æfRf"fpfCf<,³,ê,é,Æ,«,É SQL fXfe□□fg□□f"fg,àfRf"fpfCf<,³,ê,Û,·□B□u"®"l
SQL□v,àžQ□Æ,μ,Ä,,¾,³,ç□B

□Ä"lfj□□f< CE<%ÉfZfbfg"à,î□X□V□A□□œ□A,Û,½,í' }"ü,ðœÝ□o,Ä,«,É,çfXfNf□□{f<%Ä"vf□□f<
f<□B'Ê□□A□CE<%ÉfZfbfg,lfRfs□□,ð□□-,·,é,±,Æ,É,æ,èžÁ'•,³,ê,Û,·□B

□Ü'± fhf%ofCfo,Æff□f^ f□□fX,î"Á'è,lfCf"Xf^f"fx□B

“~ŽžŽÄs□SCEä •□”,lfgf%of“fUfNfVf#”,a“~Žž,É“^è,lf□[f^,ÉfAfNfZfX,·,é<@“\□B

“@“I SQL -,,,ß□ž,ÝCE^ SQL ,ì^èž□B“@“I SQL ,Á,í□AZÄ□sŽž,É SQL fXfe□[fgf□“fg,²□□□,³,è,ÄfRf“fpfCf<,³,è,Ü,·□B□□□Ä“I SQL□v,àŽQ□AE,μ,Ä,,¾,³,¢□B

“@“lf□[f< CE<%oÉfZfbfg“à,ì□X□V□A□□□□□A,Ü,½,í““ü,³,è,½□s,ðCEÿ□o,·,é,± ,AE,²,Ä,«,éfxfnf□□[f<%oÄ“\f□[f<□B

fhf%ofCfo ODBC API ,ìŠÖ□”,ðCEöŠ),·,é<□[f“ f” f%ofCfuf%ofŠ□Bfhf%ofCfo,í 1 ,Á,ì DBMS ,Éí,μ,Ä“Ä’è,³,è,Ä,¢,Ü,·□B

fhf%ofCfo fzfbfgfAfbfv DLL fhf%ofCfo“Á—L,lfCf“fXfg□[f<□í•ñ,“,æ,Ñ□Ý’è<@“\,ðŠÜ,p DLL□B

fhf%ofCfo f}f□[fWff fAfVfŠfP□[fVf#“,ÁŽg—p,·,éfhf%ofCfo,Ö,lfAfNfZfX,ðŠÇ—□,·,é<□[f“ f” f%ofCfuf %ofŠ□Bfhf%ofCfo f}f□[fWff,í□Afhf%ofCfo,lf□□[fh/fAf“f□□[fh,ð□s,¢□A“K□Ø,Éfhf%ofCfo,É ODBC ŠÖ□”,ìCEÄ,Ñ□o,μ,ð^ø,«“n,μ,Ü,·□B,Ä,Ü,è□Afhf%ofCfo f}f□[fWff,í□AODBC ŠÖ□”,ìCEÄ,Ñ□o,μ,ð^ø,«“n,μ,Ä,¢,éŠÖ,É□Afhf%ofCfo,Ö,ì□Ú’± (□Ú’±%oð□□) ,ð□s,¢,Ü,·□B

fgf%of“fUfNfVf#” □□<AE,lfAfgf~fbfN’P^Ê□Bfgf%of“fUfNfVf#”,ì□□<AE,Á,í□A□<AE’S’ì,ðŠ@—¹,·,é•K— v,²,·,è,Ü,·□Bfgf%of“fUfNfVf#”,ì^è•”,²Ž,“s,·,é,AE□Afgf%of“fUfNfVf#”S’ì,²Ž,“s,μ,Ü,·□B

fgf%of“fUfNfVf#”•a—£ fgf%of“fUfNfVf#”,ð□A,Ü,©,ì,·,x,Ä,lfgf%of“fUfNfVf#”,ì%oe<¿,©,ç•a—£ ,·,éfxfnfVf#“□B

fgf%of“fUfNfVf#”•a—£fCEfxf< fgf%of“fUfNfVf#”,²•a—£,³,è,é“x□#,¢□Bfgf%of“fUfNfVf#”•a— £fCEfxf<,É,í□ARead Uncommitted□ARead Committed□ARepeatable Read□ASerializable□A,“,æ,Ñ Versioning ,ì 5 Ží—p,²,·,è,Ü,·□B

fgf%of“fXfCE□[f^ DLL ff□[f^,ì•¶ŽšfZfbfg,ð•İŠ,·,é DLL□B

fgf%of“fXfCE□[f^ fzfbfgfAfbfv DLL fgf%of“fXfCE□[f^“Á—L,lfCf“fXfg□[f<□í•ñ,“,æ,Ñ□Ý’è<@“\ ,ðŠÜ,p DLL□B

Í

fofCf 8 frfbfg,Ü,½,í 1 flfNfefbfg□B□uflfNfefbfg□v,àŽQ□AE,μ,Ä,,¾,³,¢□B

fofCf“fffBf“fo “@ŽCE,ì□ê□#,í□ACE<%oÉfZfbfg,ì—ñ,Ü,½,í SQL fXfe□[fgf□“fg,lfpf %of□□[f^ ,ðfAfVfŠfP□[fVf#“•í□”,ÉŠÖ~A•t,·,é“@□ì,ðŽw,μ,Ü,·□B~¼ŽCE,ì□ê□#,í□A,»,ìŠÖ~A,ðŽw,μ,Ü,·□B

fofCf“fffBf“fo flftfZfbg ,·,x,Ä,ìCE<□#,³,è,½—ñ□A,Ü,½,lfpf%of□□[f^ ff□[f^,Éí,·,éff□[f^ fofbftf@ fAfhfCEfX,“,æ,Ñ’,¾fCf“fWfP□[f^ fofbftf@ fAfhfCEfX,É%oÄ,ì,ç,è,é’□B□V,μ,¢fAfhfCEfX,²□□□,³,è,Ü,·□B

fofbftf@ fAfVfŠfP□[fVf#“,AEfhf%ofCfoŠÖ,Äff□[f^,ì^ø,«“n,μ,ÉŽg—p,·,éfxfnfVf#“ f□f,fs,ì^è•“□B’É□□Afofbftf@,íí,É,É,Ä,Ä,¢,Ü,· (“ff□[f^ fofbftf@” ,AE “ff□[f^·fofbftf@” ,É,Ç)□B

fpf%of□□[f^ SQL fXfe□[fgf□“fg,ì•í□”□Bfpf%of□□[f^,É,í□Afpf%of□□[f^ f}□[f□[.Ü,½,í<^—â•,, (?) ,²•t,¢,Ä,¢,Ü,·□Bfpf %of□□[f^ ,í□AfxfnfVf#“•í□”□A,“,æ,Ñfxfe□[fgf□“fgŽÄ□sŽž,ÉŽæ“¾,³,è,é,»,ì’l,ÉCE<□#,³,è,Ä,¢,Ü,·□B

fpf%of□□[f^<L□qŽq SQL fXfe□[fgf□“fg,ÁŽg—p,³,è,éŽÄ□sŽžfpf%of□□[f^,ð•v,·<L□qŽq□Bfpf %of□□[f^ ,í□AfxfnfVf#“□[fVf#“,É,æ,èŽw’è,³,è,é•İŠ,ì’O (fAfVfŠfP□[fVf#“ fpf%of□□[f^<L□qŽq,Ü,½,í APD)□A,Ü,½,í•İŠ,ìCEä (fCf“fvfŠf□“fe□[fVf#“ fpf%of□□[f^<L□qŽq,Ü,½,í IPD) ,ì,¢,·,é,©,É•v,³,è,Ü,·□B

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